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This Issue in Brief

The survey of labor conditions in Hawaii, made by the Bureau of Labor Statistics in 1930, included racial distribution of the workers, living conditions, hours of labor, earnings, union wage rates, and labor productivity on sugar and pineapple plantations; and similar though less complete data for other industries. Average earnings, excluding housing and perquisites, on sugar plantations were $1.82 per day, and on pineapple plantations, 22.5 cents per hour, while in other industries hourly earnings ranged from 21.3 cents in coffee mills to 85.7 cents in printing and publishing. Page 1.

Accident rates in the iron and steel industry increased in 1929 as compared with 1928. This was true of both frequency and severity rates, and represented the first increase in frequency since 1922 and in severity since 1926. Page 93.

Reported expenditures for family relief in 100 cities in 1930 were approximately $40,000,000, and represented an increase of 89 per cent over 1929, according to a survey made by the United States Children's Bureau. Page 20.

The number of able-bodied persons out of a job and seeking work in the United States in January, 1931, was 6,050,000, according to an estimate of the United States Department of Commerce, based on a special census of 19 larger cities. This represented an increase of 149 per cent over the census of unemployment made in April, 1930. Page 35.

Cash loans to workers who are in need of funds because of unemployment have been inaugurated by a number of companies. Such loans serve to relieve the distress among workers facing protracted lay-offs in such an emergency as the present, and benefit the employer who wishes to keep his working force as nearly as possible intact pending the revival of business activities. The loans are made on the understanding that they are to be repaid in installments deducted from future wages and are made either with or without interest. Page 43.

A joint unemployment benefit plan was recently put into effect by 14 plants in Rochester, N. Y. The companies concerned normally employ altogether about 26,000 workers. Stabilization measures which have eliminated periodic unemployment to a large extent had been adopted by these firms prior to the present depression, and when it became necessary to reduce output in the different companies the managements have, as far as possible, reduced the working hours in order to reduce the number of lay-offs. Page 47.

The messages of the governors of 43 States to the 1931 legislatures contained many recommendations of interest to labor. Among the measures proposed are those concerned with agricultural relief, unemployment, workmen's compensation, hours of labor, woman and child welfare, injunctions, the employment of aliens on public works, convict labor, old-age pensions, the regulation of public utilities, and publicly owned power. Page 58.

Average hourly earnings in the sawmill industry declined 3.2 per cent from 1928 to 1930, according to a study by the United States Bureau of Labor Statistics covering 50,951 wage earners of 324 representative sawmills which in 1930 produced about 94 per cent of the total lumber output of the United States. Average earnings per hour in 1930 were 35.9 cents, as compared with 37.1 cents in 1928, and full-time weekly earnings averaged $20.28 in 1930 and $21 in 1928. Both hourly and weekly earnings were about the same as in 1925. Average full-time hours per week in 1930—56.5—were practically the same as in 1928, when the average was 56.6, but had declined from 58.1 in 1925. Page 177.

An old-age pension law was enacted in Delaware in January, 1931. The law is unique among the old-age pension legislation thus far enacted in the United States in that the whole cost of the pension system is borne by the State. Page 86.

There was an estimated expenditure of $1,766,144,666 for building operations during the calendar year 1930 in the 311 cities from which reports were received by the Bureau of Labor Statistics. This is a decrease of 41.8 per cent as compared with the expenditure in these same cities during the calendar year 1929. The estimated cost of new residential buildings decreased 57.6 per cent and the estimated cost of new nonresidential buildings, 26.1 per cent, comparing 1930 with 1929. In these cities dwelling places were provided in new buildings for 130,503 families, a decrease of 48.4 per cent in the number of families provided for as compared with 1929. Page 159.

The increased labor productivity in the coal mines of the United States is shown in figures issued by the United States Bureau of Mines, giving the number of man-shifts and man-hours required to produce 1 ton of coal in each year from 1911 to 1929 (p. 79). The production of 1 ton of coal (bituminous and anthracite combined) required 1.919 hours in 1929 as compared with 2.72 hours in 1911. In anthracite mines alone the time required in 1929 was 3.694 hours, as compared with 3.754 hours in 1911, and in bituminous mines, 1.668 hours in 1929 as compared with 2.472 hours in 1911.

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Labor Conditions in the Territory of Hawaii, 1929–1930

IN COMPLIANCE with the organic law of the Territory of Hawaii, entitled "An act to provide a government for the Territory of Hawaii," the United States Bureau of Labor Statistics in 1930 made a study of the commercial, industrial, social, and sanitary conditions of the laboring classes in the Territory and presents herein a summary of the results. The full report is published as Bulletin No. 534 of this bureau.

The inhabited islands of the Territory and the population of each as reported for 1930 by the Bureau of the Census are:

	Population
Oahu	202, 887
Hawaii	73, 325
Maui	48, 756
Kauai	35, 806
Molokai	5, 032
Lanai	2, 356
Niihau	136
Midway	36
Kahoolawe	2
Total	368, 336

The city of Honolulu, on the island of Oahu, with a population of 137,582 in 1930, is the largest on the islands. Hilo, on the island of Hawaii, with a population of 19,468 in 1930, is the next city in population. Between 1920 and 1930 the population of the Territory increased 43.9 per cent; that of Honolulu, 65.1 per cent; and that of Hilo, 86.6 per cent.

In 1930 there were 5,942 farms on the islands. The number by islands ranged from 1 on Niihau to 3,422 on Hawaii. There were no farms on Midway or Kahoolawe.

Racial Distribution of Population

THE racial distribution, based on the number of each race according to the June 30, 1929, report of the Governor of Hawaii and the 1930 census, is shown below:

Hawaiians	21, 106	Chinese	25, 968
Caucasian-Hawaiian	17, 164	Japanese	141, 515
Asiatic-Hawaiian	10, 903	Korean	6, 593
Portuguese	30, 609	Filipino	65, 785
Porto Rican	7, 109	Other	515
Spanish	1, 915		
Other Caucasian	39, 154	Total	368, 336

In May, 1929, there was a total of 49,890 adult male employees on the 41 sugar plantations of the Hawaiian Sugar Planters' Association (which includes all except a very few small and unimportant plantations on the Hawaiian Islands). The distribution of these employees by race was, Filipinos, 34,681 or 69.5 per cent of the total; Japanese, 9,208 or 18.5 per cent; Portuguese, 1,654 or 3.3 per cent; American, 1,265 or 2.5 per cent; Chinese, 968 or 1.9 per cent; Porto Rican, 807 or 1.6 per cent; Hawaiian, 548 or 1.1 per cent; Korean, 517 or 1 per cent; Spanish, 85 or 0.2 per cent; and all other, 157 or 0.3 per cent. Of the 1,636 adult females, 1,384 or 84.6 per cent were Japanese.

A large cannery in Honolulu was found to employ 42.1 per cent Japanese, 16.4 per cent Hawaiian, 11.7 per cent Filipino, 9.7 per cent Chinese, 7.6 per cent Portuguese, 6.8 per cent part Hawaiian, 2.6 per cent American, 2.2 per cent Korean; the other 0.9 per cent was scattered among various races, no one of which constituted more than one-half of 1 per cent of the total.

As showing the difference between the rural and urban population, particularly as it affects the Filipino, figures collected for two of the larger pineapple plantations, which during the peak period of 1929 employed 4,248 persons, show that 30.5 per cent of them were Japanese, 55 per cent Filipinos, 5.4 per cent Koreans, 4.7 per cent Chinese, only 0.8 per cent Hawaiians, and 3.6 per cent other races.

Savings Bank Accounts, by Races

In an important bank in Honolulu the years ending June 30, 1927, 1928, and 1929, show a relatively small proportion of money deposited in the savings bank by the Japanese and a relatively large proportion by the Chinese. The savings deposits in the banks by all races were a little more than $27,000,000 in 1927, $31,000,000 in 1928, and $35,000,000 in 1929. The deposits of the Japanese, with a population of more than five times that of the Chinese, were 19.3 per cent of the total deposited by all races in 1927, 19.6 per cent in 1928, and 23.4 per cent in 1929, as compared with deposits by Chinese of 17.4 per cent of the total in 1927, 16.4 per cent in 1928, and 15.1 per cent in 1929. In this connection a statement was furnished this bureau by the postmaster at Honolulu showing that, in the last year for which figures were available, money orders issued in Hawaii and payable in Japan amounted to $306,930.23, and orders issued in Japan and paid at the Honolulu office $2,066.25. Money orders issued in Hawaii and payable in China aggregated $2,849.38, and those issued in China and paid at the Honolulu office were $162.29. This shows that while the Chinese in Hawaii are sending very little money back to China, the Japanese are sending very large sums back to Japan.

Living Conditions

The industrial, social, and living conditions of the city of Honolulu are a very essential part of those of the Territory as a whole. The first impression of the city is that of cleanliness and roominess. For the most part the streets are wide and are kept exceptionally clean. While the number of automobiles per capita of population is probably as great as that in any city on the mainland, the width of the streets prevents congestion and permits of unusual facilities for parking.

That section of the older part of the city which conforms most closely to what is usually designated as the "slum section" contains many blocks of extreme congestion, but even in these districts not only are the streets kept clean but the interior of even the more crowded homes and tenements strikes one as unusually clean and well kept.

The population is essentially oriental, as indicated by the figures of racial distribution shown above, and yet racial antagonism is conspicuously absent except for a feeling of apprehension among the other races, including the American, because of the growing proportion of Filipinos in the population of the city.

Hours and Earnings in Hawaiian Industries

SUGAR plantations, including sugar mills, and pineapple plantations and canneries, are the outstanding industries in the Hawaiian Islands. The general impression that they constitute all of Hawaiian industry is erroneous, as there are many other industries, including building construction, steam and street railways, road building, steamship transportation, steam laundries, manufacture and distribution of electricity and gas, printing and publishing, stock raising, manufacture of tin cans, dry docks, dairies, foundries and machine shops, slaughtering and meat packing, and the manufacture of overalls and shirts.

Wage figures were obtained covering hours and earnings in 1929 or 1930 for 67,802 wage earners in the above-mentioned industries. Based on the 1930 census of the islands, this number is 18 per cent of the total population of the Territory of Hawaii and more than 85 per cent of all wage earners in all industries on the islands. All industries of importance in the islands were included in the study. The bureau, in studies in the mainland States, usually collects representative wage figures for from 20 to 50 per cent of the total number of wage earners in each industry.

Summary data as to average full-time hours per week, earnings per hour, and full-time earnings per week are shown in Table 1 for males in each of the 21 industries, for females in each of the 8 industries in which they are employed, and for both sexes combined. Average full-time hours per week are not shown for sugar plantations because of the great variation in hours in the different kinds of work.

Adult males on sugar plantations earned in May, 1929, at the basic rates and with bonus for attendance, an average of $1.84 per day. This average and the average of $1.30 for females and $1.82 for both sexes are for May, when averages were as much or more than for any other month or for the year. The average for both sexes for the year was $1.66 per day. These earnings and those for females do not include the perquisites (estimated at a cost of $28 per month to the plantations) of houses, fuel, water, and medical and hospital service, furnished without charge by the plantations to employees.

The average full-time hours for all the 3,477 employees on the pineapple plantations (3,316 males and 161 females) were 60 per week. The males earned an average of 22.7 cents, the females an average of 11.6 cents, and both sexes together an average of 22.5 cents per hour. Average full-time earnings per week were $13.62 for males, $6.96 for females, and $13.50 per week for males and females

combined. The earnings in the table include those at the basic rates and the bonus combined, but not perquisites.

The average full-time hours of males ranged by industries from 44 per week in printing and publishing, machine shops, and foundries to 66.4 per week in dairies; and of females ranged from 44 per week in printing and publishing to 60 per week on pineapple plantations, in pineapple canneries, and in tin-can manufacture.

The average earnings per hour of males ranged by industries, excluding plantations, from 17.4 cents in the making of overalls and shirts, to 91.5 cents in printing and publishing; of females, ranged from 14.1 cents in coffee mills to 37.8 cents per hour in printing and publishing; and of both sexes ranged from 21.3 cents in coffee mills to 85.7 cents in printing and publishing.

The average full-time earnings per week of males ranged by industries from $7.86 in overalls and shirt making to $40.26 in printing and publishing; of females ranged from $6.96 on pineapple plantations to $16.63 in printing and publishing; and of both sexes, ranged from $11.74 in coffee mills to $37.71 in printing and publishing.

TABLE 1.—NUMBER OF EMPLOYEES AND AVERAGE HOURS AND EARNINGS IN THE TERRITORY OF HAWAII, 1929–1930, BY INDUSTRY

Industry	Number of employees			Average full-time hours per week			Average earnings per hour			Average full-time earnings per week		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Sugar plantations	47,300	1,474	[1] 49,671	[2]	[2]	[2]	[3] $1.84	[3] $1.30	[4] $1.82	[5] $11.04	[5] $7.80	[6] $10.92
Pineapple plantations	3,316	161	3,477	60.0	60.0	60.0	[7] .227	[7] .116	[7] .225	[7] 13.62	[7] 6.96	[7] 13.50
Pineapple canneries	3,937	3,579	7,516	60.0	60.0	60.0	.271	.168	.224	16.26	10.08	13.44
Building construction	906	------	906	49.6	------	49.6	.506	------	.506	25.10	------	25.10
Steam railways	660	------	660	51.1	------	51.1	.446	------	.446	22.79	------	22.79
Road building	383	------	383	49.3	------	49.3	.506	------	.506	24.95	------	24.95
Longshore labor	381	------	381	54.0	------	54.0	.468	------	.468	25.27	------	25.27
Steam laundries	102	178	280	54.0	54.0	54.0	.416	.190	.272	22.46	10.26	14.69
Tin-can manufacturing	220	48	268	60.0	60.0	60.0	.401	.243	.373	24.06	14.58	22.38
Electricity—Manufacture and distribution	256	------	256	45.1	------	45.1	.707	------	.707	31.89	------	31.89
Street railways	236	------	236	52.5	------	52.5	.544	------	.544	26.62	------	26.62
Printing and publishing: Newspaper and book and job	194	24	218	44.0	44.0	44.0	.915	.378	.857	40.26	16.63	37.71
Stock raising	191	------	191	53.0	------	53.0	.275	------	.275	14.58	------	14.58
Machine shops	141	------	141	44.0	------	44.0	.685	------	.685	30.14	------	30.14
Gas—Manufacturing and distribution	102	------	102	48.0	------	48.0	.478	------	.478	22.94	------	22.94
Dry dock	94	------	94	45.0	------	45.0	.578	------	.578	26.01	------	26.01
Dairies	84	------	84	66.4	------	66.4	.299	------	.299	19.85	------	19.85
Coffee mills	32	42	74	55.3	55.0	55.1	.307	.141	.213	16.98	7.76	11.74
Foundries	66	------	66	44.0	------	44.0	.649	------	.649	28.56	------	28.56
Slaughtering and meat packing	26	------	26	51.0	------	51.0	.347	------	.347	17.70	------	17.70
Overalls and shirt making	1	16	17	45.2	45.2	45.2	.174	.307	.298	7.86	13.88	13.74

[1] Includes 349 male minors, 19 female minors, and 529 minors whose sex was not reported.
[2] Range, according to kind of work, from 33 to 72—average not computed.
[3] Per day for adults at basic rates and with bonus, but not including perquisites (rental value of houses, value of fuel, water, medical and hospital service for sickness or accidental injury of any kind) furnished to employees by plantations without any charge to employees. The value was estimated at $28 per month or $1 per day.
[4] Per day for adults and minors combined; minors earned an average of 98 cents per day.
[5] For adults but not including perquisites. (See note 3.)
[6] For adults and minors; average for minors $5.88 per week.
[7] At basic rates and with bonus, but not including perquisites. (See note 3.)

Sugar Industry

THE principal industry of the Territory of Hawaii is the growing, harvesting, and milling of sugar cane. The annual report of the Governor of Hawaii for the fiscal year ending September 30, 1928, shows 130,968 acres of land in these islands harvested in sugar cane. The tons of cane harvested were 7,710,508, from which 897,396 tons of raw sugar were produced. The tons of cane produced per acre were 58.87 and of raw sugar, 6.85, while the tons of cane per ton of raw sugar were 8.59. The average tonnage of cane per acre as applied to the entire Territory is somewhat misleading, owing to the fact that the island of Hawaii, which is the largest island of the group and contains the largest sugar-cane acreage, had a very low yield (49.17 tons) in comparison with the other islands; Oahu, for instance, had an average yield of 79.35 tons of cane per acre, some of the plantations and parts of plantations yielding as much as 100 tons per acre.

Hawaiian production of cane per acre, however, is not comparable with the yield of the other sugar-producing countries of the world. In Hawaii the normal producing time is 18 months, though in many instances the period extends to 20 and even 22 months. In all the other sugar-cane growing countries of the world the rated output of cane is the number of tons per acre per annum—that is, the yield is calculated on the planted area and not on the harvested acreage, as in Hawaii. The yield of raw sugar per ton of sugar cane, however, is somewhat greater in Hawaii, due both to the development and cultivation of high grades of cane and to the better methods of milling.

The production of cane sugar in Hawaii in 1929 was 913,670 short tons. Production in the Hawaiian Islands, which was less than 11,000 short tons each year from 1837 to 1872, reached 57,088 tons in 1882; 108,112 tons in 1886; 221,828 tons in 1896; 289,544 tons in 1900, the year in which the islands were annexed to the United States; 360,038 tons in 1901, an increase of 24 per cent in the first year the islands were a part of the United States; 617,038 tons in 1914, the year of the beginning of the World War; 701,433 tons in 1924; 811,333 tons in 1927; and reached 904,040 short tons in 1928.

Productivity of labor.—The increase during recent years in output per man-day or per man-year throughout all the sugar plantations of Hawaii is remarkable. In so far as this increased production results from the improvement in types of sugar cane now grown over types formerly grown, it reaches even to the small growers or farmers who produce only a few acres of cane and sell such cane to the plantations having grinding mills.

A plantation on the island of Oahu, with practically the same labor force, produced 40,000 tons of raw sugar in 1920 and 70,136 tons in 1929. This company in 1922 produced an average of 49.09 tons of cane per acre; in 1928 the average was 94.07 tons per acre, while on many of its separate fields the production was over 100 tons per acre. Measured in tons of 96° raw sugar, 6.68 tons per acre were produced in 1922 and 12.28 tons in 1928.

Another plantation, on the island of Hawaii, increased its output of raw sugar from 6.7 tons per man-year in 1900 to 24.22 tons per man-year in 1929. This increase was due to several factors. Several years ago a pest or blight of some sort practically destroyed the sugar cane on the island. Since that time the Hawaiian Sugar Planters'

Association has built up a remarkable laboratory for developing types of cane that will be more adapted to Hawaiian soil, more prolific in sugar content or yield, and more immune from pests.

Machinery is used at every stage of production, beginning with the clearing of the ground. Plowing is now done with 4, 5, and 6 disk plows, arranged in tandem and drawn by 62-horsepower caterpillar tractors, which plow from 14 to 24 inches deep. The soil is thus put in a condition which would have been impossible formerly and at a great deal less expenditure of man power.

Some of the more striking methods by which greater production has been secured with practically a stationary labor force are the greater use of much better fertilizers; the more systematic and extensive use of irrigation; the practice—quite general, though not universal—of burning the blades from the lower part of the stalk instead of stripping it by hand, as formerly; the use of enormous cranes, each one of which, operated by two men, performs the work of 35 men in loading the cane onto the cars for transportation to the grinding mill; and more efficient methods of laying tracks upon which these cars are conveyed to the mills.

The planters' association has established a bureau which is constantly turning out minor labor-saving devices which in the aggregate do much to increase output of the labor force, if not actually reducing the force.

Irrigation and fertilization.—It is surprising to learn that land as rich as that found for the most part in the Territory of Hawaii should require an enormous amount of fertilizing, and that, with the tremendous amount of rainfall common in most parts of the Territory, irrigation should be necessary. However, when it is realized that from 80 to 90 tons of sugar cane is removed from an acre of land and that 87 per cent of the weight of this cane consists of extractable juice, one is not unprepared to learn that it requires 4,000 tons of water to mature the cane for a ton of sugar. When it is realized that in the fertile fields of Illinois not more than 2½ tons of corn per acre, not counting the stalks—incidentally, neither are the weight of the blade and seed of sugar cane counted—are taken from the soil, as against 90 tons of sugar cane per acre from the soil of Hawaii, one can readily believe that no natural soil fertility could be found anywhere in the world to stand such a strain unaided.

Source of labor supply.—The source of labor supply for the industry has shifted many times, being originally the Hawaiian Islands, and subsequently China, Japan, Portugal, Spain, Porto Rico, and Korea. The present tendency is to depend almost exclusively upon the Philippine Islands for plantation laborers.

Unquestionably the sugar plantations of Hawaii are a great boon to the individual Filipinos who take advantage of the higher wages paid. Whether or not the Philippine Islands are the better for this drawing off of their younger and more physically fit male population raises a question this bureau does not feel called upon to answer.

The social question created in Hawaii is, however, quite distinct from the problem of labor supply for any one or two or all of its industries. Employees of the former immigrations were at the outset single men, or men immigrating for the purpose of severing marital obligations they no longer cared to carry. The Chinese, however,

were accepted by the native Hawaiians, and considerable intermarriage of Chinese men with Hawaiian women occurred. The Americans had set the example in intermarriage with Hawaiian women even back in the missionary days. Later on a considerable number of Chinese women immigrated and became the wives of the Chinese workers. The Japanese were able in the course of time more or less to remedy the social situation so far as they were concerned through the "picture bride" device.

The Filipino is not accepted by the native Hawaiian girls, nor by the children of any blends of Hawaiian women with men of former immigration—at least not to the same extent. There is unquestionably a feeling of social antagonism to the Filipino.

This large excess and continuing large importation of single men creates a social question which in the long run must become a bigger problem than either the sugar or pineapple industry or both.

A labor policy more comprehensive than merely securing plenty of labor for the sugar and pineapple industries must sooner or later force itself upon Hawaii. This is not necessarily a Filipino question. While fully 80 per cent of the crimes committed by Filipinos in Hawaii are directly or indirectly sex crimes, there is no reason to believe that the same number of young and vigorous single men of any other race or from any other part of the world, however highly civilized, would be more observant of the moral code under the same circumstances.

There is, however, a social side of the labor problems that will eventually override the purely industrial side, especially when industry is narrow either in its scope or ownership. It must happen—indeed is now happening—that the employers will have the conviction forced upon them that married men are better and ultimately cheaper plantation labor, because safer and better citizens. It is not within the power of industry to ignore over a long period of time the fact that man is a social being. Family life stabilizes employment as well as social conditions, and as the permanent population increases a wider range of industries will be necessary for the community and the community will force them upon the islands, even on soil that is good for sugar, and at a rental or purchase price which will enable the people to cultivate the soil and develop industries. Eventually institutions must prove themselves made for man, not man for institutions.

It is neither socially, industrially, nor economically wise for Hawaii to import such a proportion of its total food supply as it does now. The tendency in 1-crop or in 2-crop districts to ignore everything but the principal industry is not of course confined to Hawaii. Cuba, another sugar-cane country, imports from the United States fruits which grow wild in Cuba. The distance between Hawaii and the mainland of the United States, or any other country for that matter, is so great that importations of articles necessary for the sustenance of life and the ordinary comforts of living add so greatly to the cost of these things that eventually these living costs will defeat the purposes of a cheap labor supply drawn from no matter where.

Earnings in the sugar industry.—A representative sugar plantation, one of the 41 covered in the study, had a total of 1,218 em-

ployees, "not on a monthly basis," on its pay rolls in May, 1929, and an average of 1,262 employees per month in 1929. The plantation was in operation 27 days in May and 309 days in 1929. This and all other plantations were on a 6-day week basis. The 1,218 on the rolls in May worked a total of 25,786 days, or an average of 21.2 days in the month. This average was 78.52 per cent of the 27 (full-time) days that the plantation was in operation in the month. The employees on the plantation in 1929 worked a total of 305,943 days. Based on the average of 1,262 employees per month and the days worked by employees in the year, an average of 20.2 days per month was worked in 1929. The plantation was in operation 309 days in 1929, or an average of 25.8 days per month. The average of 20.2 days per month worked by employees was 78.29 per cent of the average of 25.8 (full-time) days per month that the plantation was in operation in 1929.

Average earnings include the earnings of employees at basic rates, and also a bonus of 10 per cent of such earnings which was paid monthly to each employee who worked 23 or more days in the month. In May the bonus amounted to $2,838, or 8.37 per cent of the amount earned by the 1,218 employees at basic rates. In 1929 the bonus amounted to $32,784, or 8.07 per cent of the amount earned by all employees on the pay rolls of this plantation in that year. Including the bonus, average earnings on the plantation were $1.42 per day in May and $1.44 per day in 1929 and $30.16 per month in May and $29 per month in 1929.

The 49,671 employees on the pay rolls on the 41 plantations in May earned, including the bonus, an average of $1.82 per day and $43.31 per month. Averages in 1929 were $1.66 per day and $36.24 per month. Average earnings ranged by plantations from $1.33 to $2.78 per day in May and from $1.14 to $2.16 per day in 1929; also from $29.24 to $67.84 per month in May and from $22.58 to $46.75 in 1929. In May the bonus amounted to $149,573, or 7.47 per cent of the earnings at basic rates. The amount paid as bonus in 1929 was $1,452,499, or 7.24 per cent of the earnings in the year at basic rates.

As already stated, the earnings per day and per month do not include the value of the perquisites provided. An official of the Hawaiian Sugar Planters' Association estimated that the cost per month to the plantations per family is: House rent, $20; fuel and water, $4; medical and hospital service, $4; or a total of $28 per month. Single employees are lodged, 3, 4, or 5 to a house, either in houses like those furnished to families or in boarding houses. Medical and hospital services for single employees are estimated to cost $2 per month per person.

The rate for overtime on all plantations was the same as for regular working time, and the rate for Sunday and holidays for day laborers was one and one-half times their regular rate.

Average earnings per day in 1929, including the attendance bonus, are presented in Table 2 for the various kinds of work, for adult males, adult females, and minors, and also for all employees combined on 41 sugar plantations in the Hawaiian Islands. These plantations constitute the Hawaiian Sugar Planters' Association and include all on the islands of importance in number of wage earners and number of tons of raw sugar produced. The bonus amounted to about 7¼ per cent of the earnings at basic rates.

The employees on sugar plantations are of three classes—short-term contractors, long-term contractors, and day laborers. Short-term contractors may work at one or more of the 10 different kinds of work listed in the table under this classification. The contracts are for short periods and apply to "planting cane," "fertilizing," "irrigating," "cutting," or "loading," etc., on one or more fields at a contract price per acre, per ton, etc. Long-term contractors cultivate cane during the entire growing period of many months. They are paid for the number of tons of cane produced at a specified contract rate per ton. Day laborers, as the term implies, are time workers.

The average earnings of those doing short-term contract work was $1.85 per day for adult males, $1.43 for adult females, $1.06 for minors, and $1.83 per day for all employees.

The average earnings of long-term contractors were $2.07 per day for adult males, $1.55 for adult females, 85 cents for minors, and $2.05 per day for all employees.

The average earnings of day laborers ranged, by kinds of work, from $1.08 to $3.53 per day for adult males; from 68 cents to $2.87 per day for adult females; from 61 cents to $2.33 per day for minors; and from 90 cents to $3.53 per day for all day laborers.

The above rates do not include the rental value of homes, nor the value of fuel, water, medical and hospital services furnished by the plantations without cost to the employees.

TABLE 2.—AVERAGE EARNINGS PER DAY, INCLUDING BONUS, OF MEN, WOMEN, AND MINORS ON 41 SUGAR PLANTATIONS, 1929, BY KIND OF WORK

Kind of work	Average earnings per day			
	Adult males	Adult females	Minors	Total
Short-term contracts:				
Planting cane	$1.40	$1.16	$0.92	$1.38
Fertilizing	1.71	1.25	1.12	1.66
Irrigating	1.43	1.22	1.09	1.42
Cutting cane	1.73	1.27	1.12	1.73
Loading cane	2.11	1.68	1.23	2.09
Hauling or fluming cane	2.09	1.36	1.12	2.06
Cultivating (short term)	1.40	1.12	.97	1.38
Construction work	2.62	1.40	1.52	2.62
Other contracts	1.93	1.31	1.31	1.89
Portable track	2.93	2.14	1.76	2.90
Total	1.85	1.43	1.06	1.83
Long-term contractors	2.07	1.55	.85	2.05
Day laborers:				
Day laborers, field hands	1.10	.83	.70	1.05
Basic-rate day laborers, other	1.08	.68	.61	.90
Other unskilled	1.37	.79	.97	1.36
Semiskilled	1.89	.86	1.66	1.89
Skilled	3.53	2.87	2.33	3.53
Total	1.51	.88	.75	1.46
Grand total	1.68	1.19	.79	1.66

Labor cost of various operations.—Labor cost per ton of cane and per ton of raw sugar produced was computed by kinds of work for each of five representative plantations and for the five combined. The cost of clearing and plowing ranged on the various plantations from 9.7 cents per ton of cane and 91 cents per ton of sugar to 17.8 cents

per ton of cane and $1.379 per ton of sugar. The average cost of this operation for all of the five plantations for which data were obtained was 14.5 cents per ton of cane and $1.102 per ton of sugar.

The cost of preparing and planting ranged by plantations from 7.2 cents per ton of cane and 50.7 cents per ton of sugar to 15.4 cents per ton of cane and $1.447 per ton of sugar. The average for the five plantations was 11.4 cents per ton of cane and 86.6 cents per ton of sugar.

The cost of cultivating ranged from $1.02 per ton of cane and $9.552 per ton of sugar to $1.689 per ton of cane and $12.668 per ton of sugar.

The total average labor cost for all operations on the five plantations was $3.745 per ton of cane and $28.389 per ton of raw sugar. The labor cost of clearing and plowing formed 3.9 per cent of the total labor cost; preparing and planting, 3 per cent; water supply, 4.6 per cent; cultivating, 39.5 per cent; fertilizing, 1.4 per cent; harvesting, 23.9 per cent; sugar-mill expense, 9 per cent; salaries, 4 per cent; and general repairs, etc., 10.7 per cent.

Labor turnover.—Table 3 shows the number of employees on the pay rolls of the 41 sugar plantations in each month in 1929, and the average per month for the year. It also shows the turnover rate, for the month and for the year, of accessions (the per cent that the number added to the pay rolls in each month formed of the number on the pay rolls in that month) and of separations (the per cent that the number dropped from the pay rolls in each month was of the number on the rolls in that month).

TABLE 3.—LABOR TURNOVER ON 41 SUGAR PLANTATIONS, 1929, BY SEX AND MONTHS

Month	Adult males			Adult females			Minors			Total		
	Number	Turnover rate		Number	Turnover rate		Number	Turnover rate		Number	Turnover rate	
		Accession	Separation		Accession	Separation		Accession	Separation		Accession	Separation
January	46,985	4.14	2.32	1,426	12.34	4.70	445	13.71	10.34	48,856	4.47	2.46
February	47,123	2.76	2.21	1,499	7.27	3.34	446	4.71	4.48	49,068	2.92	2.27
March	47,219	2.48	2.22	1,513	6.15	4.43	447	17.45	11.63	49,179	2.73	2.38
April	47,392	3.05	2.59	1,492	5.23	5.09	405	5.43	16.79	49,289	3.13	2.78
May	47,300	2.43	2.79	1,474	3.53	4.27	368	4.62	5.98	49,142	2.48	2.86
June	47,000	2.49	2.89	1,569	9.24	3.57	458	21.83	4.37	49,027	2.89	2.92
July	46,490	2.10	3.12	1,517	5.41	6.23	618	4.69	3.88	48,625	2.24	3.23
August	46,017	1.76	2.84	1,452	3.10	8.06	476	5.88	6.93	47,945	1.84	3.04
September	45,106	1.60	3.55	1,280	3.05	14.92	476	7.56	80.25	46,862	1.70	4.64
October	44,572	2.15	3.26	1,201	3.41	10.66	408	2.70	17.40	46,181	2.18	3.58
November	44,071	2.24	3.15	1,150	4.96	8.43	421	7.36	6.65	45,642	2.35	3.51
December	45,072	4.52	2.27	1,180	9.07	7.63	478	15.27	2.51	46,730	4.56	2.41
1929	[1] 46,196	31.58	33.13	[1] 1,396	73.35	78.65	[1] 454	111.67	171.37	[1] 48,046	33.55	35.76

[1] Average for year.

In January, 1929, there were 46,985 adult males on the pay rolls of these plantations. In the month 1,947, or 4.14 per cent, were added to the rolls and 1,088, or 2.32 per cent, were dropped from the rolls. There were 1,426 adult females on the rolls in the month and 176, or 12.34 per cent, were added and 67, or 4.7 per cent, were dropped from the rolls. There were 445 minors on the rolls in the month and

61, or 13.71 per cent, were added and 46, or 10.34 per cent, were dropped from the rolls in the month. The total accessions during the month were 4.47 per cent of the 48,856 on the rolls and the separations were 2.46 per cent.

The accessions of adult males in 1929 were 31.58 per cent of the average number on the rolls in the year; of adult females, 73.35 per cent; of minors, 111.67 per cent; of all three classes combined, 33.55 per cent. The separations of adult males were 33.13 per cent of the average number of the men; of adult females, 78.65 per cent of the women; of the minors, 171.37 per cent of the minors; and of men, women, and minors together were 35.76 per cent of the average for all three classes combined.

Regular full-time hours.—The regular hours of operation per day and per week in 1929, as established by a regular time of beginning and of quitting work on each day per week, less the regular time off duty for the midday dinner or lunch, were obtained for each of the several kinds of work on the sugar plantations in the Hawaiian Islands.

The regular full-time hours per day ranged by kinds of work from 5½ for the employees on one plantation who were engaged in loading cane to 12 for the employees on 4 plantations who were employed at hauling or fluming cane, and also for the sugar-mill workers on 23 plantations. The 10-hour day was much more frequent than any other, the next in order being the 9-hour day.

Regular full-time hours per week ranged from 33 for the employees on one plantation who did the work of loading cane to 72 per week for employees on 3 plantations who worked at hauling or fluming cane, and also for the sugar-mill workers on 19 plantations. The 60-hour, 59-hour, and 54-hour week were quite frequent. On many plantations the hours per day were less on one of the 6 days per week than on the other 5.

Pineapple Industry

IN NUMBER of wage earners, in amount paid as wages, and in value of products the pineapple industry in the Hawaiian Islands is second to the sugar industry and includes both the growing and the canning of pineapples.

Pineapples were introduced and cultivated in the islands to a rather limited extent during the period from 1886 to 1900, but canning did not begin until 1901, when about 2,000 cases of 24 cans each were canned and placed on the market. The Smooth Cayenne variety is generally grown, because those engaged in the industry consider it superior in flavor and less fibrous than other varieties. The number of cases increased from year to year to approximately 50,000 in 1905, to 625,000 in 1910, to 1,700,000 in 1913, and to more than 9,000,000 cases in 1929, thus showing the rapid growth and the present importance of the industry.

The pineapple industry is a seasonal one. Although pineapples ripen and are gathered and canned throughout the year, by far the greatest part of the crop matures and is gathered and canned in June, July, August, and September. During these months the canneries operate at capacity six days each week and usually two shifts per day. In the slack period, which extends over the other months

in the year, canneries operate at less than capacity and frequently on only one day or part of a day in a week.

On the plantations the busy season covers the same period, June to September. The general work on the plantations, however, furnishes employment six days each week to employees who do the various kinds of work necessary in preparing the soil, planting slips, cultivating the plants, etc.

Pineapple Plantations

Pineapple plantations in the islands have an estimated area, as stated by the Governor of Hawaii in his report for the fiscal year ending June 30, 1929, of 88,000 acres, or 137½ square miles, with 49,356 acres in actual cultivation in that year. The estimated area is conservative. Plantations are divided into plots of land called "fields." After cultivation and picking of two or three crops, each field is left uncultivated for a time to rest and recuperate.

The growing of pineapples is highly developed, with production in some fields of as much as 36 tons of fruit per acre. The plantations, as well as the canneries, are equipped with modern labor-saving machinery, a great deal of which is automatic and of a highly specialized type, particularly in the canneries.

Various types of tractors are used in clearing the land of cactus and stone, and in plowing, subsoiling, and harrowing.

Each plantation has a well-equipped shop for the repair of tractors, trucks, and other machinery, and also employees to repair plantation buildings of various kinds, including the houses owned by the plantation and occupied by employees and families rent free.

Hours and earnings.—Table 4 (p. 13) shows for 3,316 males and 161 females on four of the largest pineapple plantations the average full-time and actual hours and earnings in 1929 by occupations.

The regular full-time hours in 1929 of all employees on these plantations were 10 per day or 60 per week. The 2,289 adult male field laborers (comprising the most important occupation on the plantations in number of employees) actually worked an average of only 16.6 days and 160.7 hours in the month for which data were obtained, and earned an average of $31.51—19.6 cents per hour.

Fluctuations in employment and in earnings.—Table 5 (p. 14) shows for each of two of the most important pineapple plantations in the Hawaiian Islands the per cent that the number of employees on the pay rolls in each month in 1929 was of the average number per month on the rolls in the year; the average number of days that were worked per employee each month in the year and the per cent that the average for each month was of the average for the year; the average earnings per employee per month and per day and the per cent that the average per month or per day for each month was of the average per month or day for the year.

Employment—that is, the number of persons on the pay rolls—was 35 per cent higher in July on plantation A and 28.4 per cent higher on plantation B than the average per month for the year; 25.8 per cent higher in August on plantation A and 40.8 per cent on plantation B; 17.7 per cent higher in September on plantation A and

49.9 per cent on plantation B. During these months more than 85 per cent of the annual crop of pineapples ripen, are picked, sorted as to size, and delivered to the canneries.

In April employment on plantation A was only 78.2 per cent, and in January on plantation B only 57.8 per cent, of the average per month for the year.

TABLE 4.—AVERAGE FULL-TIME AND ACTUAL HOURS AND EARNINGS OF EMPLOYEES ON FOUR OF THE LARGEST PINEAPPLE PLANTATIONS IN 1929, BY SEX

Occupation and sex	Number of establishments	Number of employees	Average number of days worked in month	Average full-time hours—		Time actually worked in month		Average earnings per hour	Average full-time earnings—		Average actual earnings in month
				Per week	Per month	Average hours	Per cent of full time		Per week	Per month	
Males											
Blacksmiths	4	8	26.4	60.0	262.5	261.7	99.7	$0.401	$24.06	$105.26	$104.98
Blacksmiths' helpers	4	6	23.5	60.0	263.3	235.4	89.4	.301	18.06	79.25	70.77
Carpenters	4	22	20.9	60.0	268.2	208.1	77.6	.395	23.70	105.94	82.18
Carpenters' helpers	3	8	20.1	60.1	265.0	204.6	77.2	.295	17.70	78.18	60.34
Laborers, field [1]	4	2,289	16.6	60.0	264.1	160.7	60.8	.196	11.76	51.76	31.51
Laborers, field (minors) [2]	3	55	15.6	60.0	270.0	150.8	55.8	.085	5.10	22.95	12.75
Foremen or overseers	4	185	27.1	60.0	266.0	270.8	101.8	.331	19.86	88.05	89.61
Painters	2	4	15.3	60.0	270.0	152.5	56.5	.362	21.72	97.74	55.25
Plumbers	3	3	26.3	60.0	263.3	257.7	97.9	.490	29.40	129.02	126.34
Repairers (auto mechanics)	4	19	25.3	60.0	266.8	255.4	95.7	.399	23.94	106.45	101.80
Teamsters	4	262	21.7	60.0	263.6	224.2	85.1	.247	14.82	65.11	55.47
Tractor drivers	4	49	23.7	60.0	265.9	270.8	101.8	.310	18.60	82.43	84.06
Tractor drivers' helpers	4	48	24.5	60.0	268.8	276.1	102.7	.241	14.46	64.78	66.54
Truck drivers	4	83	24.2	60.0	267.1	266.2	99.6	.305	18.30	81.47	81.13
Truck drivers' helpers	4	141	20.5	60.0	264.0	224.8	85.2	.221	13.26	58.34	49.77
Other employees	4	134	23.7	60.3	263.4	241.1	91.5	.250	15.08	65.85	60.18
Total, males	4	3,316	18.6	60.0	264.5	185.1	70.0	.227	13.62	60.04	41.96
Females											
Laborers, field [2]	4	135	6.5	60.0	265.9	60.4	22.7	.136	8.16	36.16	8.22
Laborers, field (minors) [2]	2	26	16.6	60.0	270.0	160.8	59.6	.077	4.62	20.79	12.38
Total, females	4	161	8.1	60.0	266.5	76.6	28.8	.116	6.96	30.91	8.89
Grand total	4	3,477	18.1	60.0	264.6	180.0	68.0	.225	13.50	59.54	40.43

[1] Include planters, cultivators, fertilizers, fruit pickers, plant gatherers, cultivator contractors, cleaners up, etc.
[2] Include plant and slip gatherers, hoers, and weeders.

Length of service of employees.—Table 6 (p. 14) shows the number and per cent of employees of two representative plantations by periods of service.

On plantation A, 26.1 per cent of the employees had a period of service of less than 6 months; 30.8 per cent, 1 and under 2 years; while one employee, or one-tenth of 1 per cent, had a service of 26 years.

TABLE 5.—FLUCTUATIONS IN EMPLOYMENT AND EARNINGS IN 1929, BY MONTHS, ON TWO PLANTATIONS

Plantation and month	Employees—per cent of average for 1929	Average days worked		Average earnings			
				Per month		Per day	
		Number	Per cent of average for 1929	Amount	Per cent of average for 1929	Amount	Per cent of average for 1929
Plantation A							
January	87.0	21.5	109.7	$50.08	102.7	$2.33	93.6
February	82.1	15.0	76.5	36.80	75.5	2.45	98.4
March	79.1	20.8	106.1	49.37	101.2	2.38	95.6
April	78.2	20.4	104.1	48.94	100.3	2.40	96.4
May	78.6	20.7	105.6	50.49	103.5	2.44	98.0
June	108.1	22.0	112.2	57.83	118.6	2.63	105.6
July	135.0	21.6	110.2	58.83	120.6	2.73	109.6
August	125.8	20.3	103.6	51.82	106.3	2.55	102.4
September	117.7	19.6	100.0	50.49	103.5	2.58	103.6
October	106.4	20.8	106.1	50.80	104.2	2.44	98.0
November	101.8	16.0	81.6	36.51	74.9	2.29	92.0
December	100.5	15.9	81.1	36.65	75.1	2.31	92.8
Average for year	100.0	19.6	100.0	48.77	100.0	2.49	100.0
Plantation B							
January	57.8	20.0	92.2	42.85	90.1	2.14	97.3
February	70.1	18.3	84.3	37.94	79.8	2.08	94.5
March	75.8	26.4	121.7	57.84	121.6	2.19	99.5
April	78.9	22.8	105.1	48.99	103.0	2.15	97.7
May	72.6	24.9	114.7	53.79	113.1	2.16	98.2
June	80.7	24.0	110.6	53.05	111.5	2.21	100.5
July	128.4	24.6	113.4	54.75	115.1	2.22	100.9
August	140.8	25.9	119.4	57.75	121.4	2.23	101.4
September	149.9	18.6	85.7	41.93	88.2	2.25	102.3
October	107.1	22.2	102.3	51.26	107.8	2.31	105.0
November	117.7	17.2	79.3	37.53	78.9	2.18	99.1
December	119.9	16.8	77.4	34.46	72.5	2.06	93.6
Average for year	100.0	21.7	100.0	47.56	100.0	2.20	100.0

TABLE 6.—NUMBER AND PER CENT OF EMPLOYEES OF TWO PINEAPPLE PLANTATIONS HAVING SPECIFIED PERIOD OF SERVICE, 1929

Period of service	Employees having each classified period of service—				Period of service	Employees having each classified period of service—			
	Plantation A		Plantation B			Plantation A		Plantation B	
	Number	Per cent	Number	Per cent		Number	Per cent	Number	Per cent
Less than 6 months	458	26.1	505	44.0	14 and under 15 years	5	0.3	----	----
6 months and under 1 year	----	----	198	17.2	15 and under 16 years	4	.2	1	0.1
1 and under 2 years	540	30.8	167	14.5	16 and under 17 years	1	.1	1	.1
2 and under 3 years	187	10.7	115	10.0	17 and under 18 years	2	.1	----	----
3 and under 4 years	153	8.7	52	4.5	18 and under 19 years	3	.2	----	----
4 and under 5 years	73	4.2	59	5.1	19 and under 20 years	3	.2	----	----
5 and under 6 years	90	5.1	27	2.4	20 and under 21 years	5	.3	----	----
6 and under 7 years	62	3.5	12	1.0	21 and under 22 years	1	.1	----	----
7 and under 8 years	43	2.5	2	.2	22 and under 23 years	3	.2	----	----
8 and under 9 years	37	2.1	2	.2	23 and under 24 years	3	.2	----	----
9 and under 10 years	36	2.1	4	.3	24 and under 25 years	2	.1	----	----
10 and under 11 years	20	1.1	----	----	25 and under 26 years	2	.1	----	----
11 and under 12 years	10	.6	1	.1	26 years	1	.1	----	----
12 and under 13 years	7	.4	2	.2	Total	1,755	100.0	1,148	100.0
13 and under 14 years	4	.2	----	----					

Pineapple Canneries

The three most important occupations in canneries in number of wage earners are the canners (females), male and female laborers, and trimmers (females). In the present study wage data were obtained for 1,510 canners, 3,499 laborers, and 1,408 trimmers. The number of wage earners in these occupations form 81 per cent of the 7,516 workers employed in the 5 canneries studied. The earnings of the canners averaged 16.5 cents per hour, with average full-time weekly earnings of $9.90; those of the male laborers averaged 23.4 cents per hour and $14.04 per week, and those of the trimmers averaged 16.1 cents per hour and $9.66 per week.

In three canneries the rate for overtime and for work on Sunday and holidays was one and one-half times the regular rate and applied to hourly rate employees; in one cannery this rate applied to all except monthly rate employees; and in one cannery the rate was the same as for the regular working time.

Table 7 shows, by occupations, average full-time hours per week, earnings per hour, and full-time earnings per week for the employees of the five canneries covered in this study:

TABLE 7.—AVERAGE FULL-TIME HOURS AND EARNINGS PER WEEK, AND AVERAGE EARNINGS PER HOUR IN FIVE PINEAPPLE CANNERIES, 1929, BY OCCUPATION AND SEX

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per week	Average full-time earnings per week
Blacksmiths, male	2	2	60.0	$0.513	$30.78
Box makers, male	2	31	60.0	.220	13.20
Canners, female	5	1,510	60.0	.165	9.90
Carpenters, male	3	14	60.0	.428	25.68
Electricians, male	3	12	60.0	.502	30.12
Eradicators:					
Male	2	98	60.0	.200	12.00
Female	5	248	60.0	.155	9.30
Foreladies	5	106	60.0	.253	15.18
Laborers:					
Male	5	3,205	60.0	.234	14.04
Female	5	294	60.0	.182	10.92
Machinists, male	4	100	60.0	.541	32.46
Machine shop helpers, male	5	82	60.0	.336	20.16
Machine tender operators, male	2	34	60.0	.397	23.82
Testers, can, male	2	26	60.0	.341	20.46
Trimmers, female	5	1,408	60.0	.161	9.66
Truck or tractor drivers, male	3	10	60.0	.326	19.56
Other skilled employees, male	3	53	60.0	.542	32.52
Other employees					
Male	5	270	60.0	.428	25.68
Female	2	13	64.6	.260	16.80
All employees, male	5	3,937	60.0	.271	16.26
All employees, female	5	3,579	60.0	.168	10.08
All employees, male and female	5	7,516	60.0	.224	13.44

Bonuses.—The average earnings for employees on pineapple plantations and in canneries include earnings at basic time and piece rates and bonuses paid to employees for attendance, service, specified per cent of earnings at time and piece rates, etc., but do not include rental value of houses, nor the value of fuel, water, and medical and hospital service furnished by plantations to employees.

One plantation and one cannery paid a bonus of 10 cents per day to each employee with an attendance of 21 or more days per month. Attendance of 21 days earned a bonus of $2.10 in the month in addition to earnings at basic rates; of 22 days a bonus of $2.20; of 23 days a bonus of $2.30, etc. Example: An employee whose rate per hour was 20 cents and who worked 24 days or 240 hours in a month earned at his basic rate $48 and a bonus of $2.40 for attendance, or a total of $50.40 in the month.

One plantation and one cannery paid a "busy-season attendance" bonus of 10 per cent of earnings at basic rates, during the busy season in the summer, to males who did not lose as much as 50 hours of the regular working time and to females who did not lose as much as 70 hours. Employees were also paid a "service" bonus of 1 per cent of earnings at basic rates if in service one-half year and also one-tenth of 1 per cent of earnings for each year of service after one-half year.

One plantation and one cannery paid to all employees except those who were paid monthly rates an "attendance" bonus of 25 cents per day for attendance of 23 or more days per month, a special bonus of 10 per cent of earnings at basic rates, and also a "quarterly" bonus based on earnings. Employees at monthly rates were paid the special bonus of 10 per cent of earnings at basic rates.

One of the four plantations and two of the five canneries had no bonus systems in operation in 1929.

Race and sex of employees.—Table 8 shows the number and per cent of males, females, and all employees of each race on the pay rolls of a representative pineapple cannery in the Hawaiian Islands in a representative pay period in 1929.

Japanese formed 43.9 per cent of all males of all races on the pay rolls, and 39.9 per cent of all females, while the total number of Japanese were 42.1 per cent of all employees of the cannery.

TABLE 8.—RACE DISTRIBUTION OF EMPLOYEES OF A REPRESENTATIVE PINEAPPLE CANNERY, 1929, BY SEX

Race	Males		Females		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Japanese	525	43.9	386	39.9	911	42.1
Hawaiian	107	9.0	248	25.6	355	16.4
Filipino	220	18.4	32	3.3	252	11.7
Chinese	111	9.3	99	10.2	210	9.7
Portuguese	75	6.3	89	9.2	164	7.6
Part Hawaiian	62	5.2	85	8.8	147	6.8
American	43	3.6	13	1.3	56	2.6
Korean	39	3.3	8	.8	47	2.2
Porto Rican	7	.6	4	.4	11	.5
Spanish	2	.2	1	.1	3	.1
Russian	1	.1	1	.1	2	.1
Negro	1	.1	1	.1	2	.1
Italian	1	.1			1	.05
British	1	.1			1	.05
Norwegian			1	.1	1	.05
Total	1,195	100.0	968	100.0	2,163	100.00

Length of service of employees.—Table 9 shows the number and per cent of employees of a representative cannery by periods of service.

In the cannery 43.4 per cent of the employees had service of less than 6 months; 15.8 per cent, 6 months and under 1 year; 12.2 per

cent, 1 and under 2 years; and 4.6 per cent, 10 and under 24 years. Only one employee, or one-tenth of 1 per cent of all the employees, had service of 23 and under 24 years.

TABLE 9.—NUMBER AND PER CENT OF EMPLOYEES OF ONE PINEAPPLE CANNERY HAVING SPECIFIED PERIOD OF SERVICE, 1929

Period of service	Employees having each classified period of service		Period of service	Employees having each classified period of service	
	Number	Per cent		Number	Per cent
Less than 6 months	828	43.4	14 and under 15 years	6	0.3
6 months and under 1 year	301	15.8	15 and under 16 years	7	.4
1 and under 2 years	233	12.2	16 and under 17 years	7	.4
2 and under 3 years	112	5.9	17 and under 18 years	2	.1
3 and under 4 years	73	3.8	18 and under 19 years	2	.1
4 and under 5 years	62	3.3	19 and under 20 years	3	.2
5 and under 6 years	62	3.3	20 and under 21 years		
6 and under 7 years	51	2.7	21 and under 22 years	1	.1
7 and under 8 years	28	1.5	22 and under 23 years	1	.1
8 and under 9 years	25	1.3	23 and under 24 years	1	.1
9 and under 10 years	43	2.3	24 and under 25 years		
10 and under 11 years	21	1.1	25 and under 26 years		
11 and under 12 years	17	.9	26 years		
12 and under 13 years	6	.3			
13 and under 14 years	14	.7	Total	1,906	100.0

Coffee Industry

SEPARATE studies were made of the two divisions of the coffee industry, but the report includes figures only as to the mill processes of hauling, sorting, and polishing the bean. Agricultural data could not be included because such operations were not going on at the time the agents of the bureau visited the islands and it was impracticable to locate coffee producers who employ any considerable number of workers and retain copies of pay rolls beyond the season's crop. A succinct idea of the industry is given in the report of the governor of the Territory for the fiscal year ending June 30, 1929, as follows:

> The present acreage devoted to coffee production on the island of Hawaii, the only island on which coffee is produced on a commercial scale, is Kona district, 5,500 acres; Hamakua district, 400 acres; other districts, 100 acres.
>
> In Kona district there are about 1,200 coffee farms, and at the height of the picking season, during the past year, about 1,200 men and 850 women were employed in the industry. The value of the coffee exported during the calendar year 1928 was $1,368,826, the crop amounting to 5,151,266 pounds.

Rice Industry

THE rice industry in Hawaii dates as far back as 1859, when Mr. Holstein, of the Hawaiian Agricultural Society, bought a piece of land in Nuuanu Valley on which to carry out some experimental work on various crops, of which rice was one. Rice had been introduced previous to this date, but the first successful attempt was made by Mr. Holstein. His success took the islands by storm. Taro lands were acquired by rice planters in rapid succession, and for a time it seemed as if the islands were to have a taro famine. This lasted only for a few years, however, as losses and other discouraging factors began to make their appearance. The taro industry came back with a boom, reaching its height in 1865, when the rice industry made an

attempt to regain lost ground. This time it was more successful and remained so until other industries came into being, when the industry began to decline.

Although rice is still believed to be the world's greatest crop (with a normal annual production of over 300,000,000,000 pounds), in Hawaii the industry, instead of increasing, is rapidly declining. Rice is the surest and most regular of the great crops and probably the most staple food of the greatest number of people. At first glance, one would think that with the oriental population of the Territory, the industry should be in a very flourishing condition, but surveys have proved that each year the total acreage in rice cultivation is greatly reduced.

Rice culture began in the unrecorded past, yet the methods of cultivation, in so far as science and technique are concerned, have seen very little change. This is probably the sole reason why it is a dying industry, when the pineapple and sugar-cane industries are advancing so rapidly. In 1907 when the pineapple industry was still in its infancy, there were at least 10,000 acres of rice under extensive cultivation, and rice was the second ranking crop in the Territory. But to-day the Territory can not even produce enough for its own local consumption and has to import large quantities from California and Japan.

Almost all of the rice produced here is cultivated by Chinese and Japanese, and as long as it is cultivated under the same crude methods employed by the natives in the Orient centuries ago, rice will never be on a profit-producing basis.

As things stand, the future of the industry looks very dark. A survey has proved that in the last few years the total acreage has decreased at least 50 per cent, and, as stated above, most of the planters are Chinese and Japanese, ranging in age from 40 to 65 years. The future will present another big problem, that regarding the labor supply. Laborers of oriental descent are absolutely barred from immigrating into the Territory and no other race is as yet in position to take up this work.

Union Labor

Labor organizations in the Hawaiian Islands are few in number, small in membership, and, with the exception of the barbers' union, have no agreements with the employers.

The trades or occupations that have organizations are machinists, molders, molders' helpers, and boilermakers in foundries and machine shops; hand compositors and linotype operators in book and job and newspaper printing and publishing; marine engineers in steam navigation; carpenters and joiners, plasterers and plumbers in building construction and repair; and barbers in shops in which Japanese and Filipinos are not employed. Table 10 shows the number of days per week on which work was available to the employees in each of these trades (except boilermakers and plasterers), in the companies in which they were employed, the regular hours of operation, Monday to Friday, Saturday, and per week; wage rates per hour, day, week, or month; and the number of times the regular rate that was paid for overtime and for any work on Sunday and holidays. Boilermakers and plasterers are entirely too few in number to warrant showing any figures for them.

The members of the machinists' union were employed in shops in which work was available 6 days per week. The regular hours of operation in the shops were 8 each day, Monday to Friday, and 4 on Saturday, or 44 per week. The wage rates ranged from $7 to $7.84 for a day of 8 hours. For overtime or any time worked in excess of 8 hours, Monday to Friday, and 4 on Saturday, or any work on Sundays and holidays, a rate of two times the regular rate was paid.

TABLE 10.—WORKING TIME AND WAGE RATES OF UNION WORKERS, 1930, BY OCCUPATIONS

Trade or occupation	Days per week	Hours			Wage rates per day	Times regular rate for overtime and work on Sunday and holidays
		Monday to Friday	Saturday	Per week		
Machinists	6	8	4	44	$7.00–$7.84	2
Molders, floor, hand	6	8	4	44	8.50	2
Molders' helpers	6	8	4	44	4.00–5.25	2
Compositors, hand, and linotype operators	6	8	4	44	[1] 35.00–85.00	1½
Marine engineers	6	8	8	48	[2] 150.00–300.00	
Carpenters and joiners	6	8¾	5	48	4.50–6.50	1
Plumbers	6	8½	4½	47	6.00–7.00	
Barbers	6	9½	11½	58½	[3] 25.00	

[1] Per week.
[2] Per month.
[3] Per week plus 60 cents for each $1 over $35 gross, for chair. Example: A barber in one week did work amounting to $40. He was paid $25 plus 60 cents for each $1 over $35, or a total of $28.

At the time of the study of conditions in the Hawaiian Islands by the bureau, the barbers' union, which does not include any Japanese or Filipinos, had agreements with six shops only.

The Honolulu Japanese Barbers' Association, an employers' organization, consisted at that time of 191 members and employed approximately 200 male and 100 female Japanese barbers. The hours in these shops were from 7 a. m. to 8.30 p. m., Monday to Saturday, with one hour off duty at or near noon for lunch, except on busy days, usually Saturday, when only such time as could be had without interfering with the trade was taken. The hours were therefore 12½ per day, Monday to Friday, and 13½ on Saturday, or 76 per week, for which they were paid rates ranging from $15 to $25 per week and given two meals per day. The barbers in these shops are not members of any union.

In 1929 there were approximately 150 plumbers in Honolulu. About 30 per cent of them were members of the plumbers' union and 70 per cent were Japanese and other nonunion workers. Members of the union were paid from $6 to $7 per day. The Japanese plumbers worked for contractors of their race and were paid from $3 to $5 per day. In the year 2,402 plumbing permits, at an estimated cost of $704,695.50, were issued in Honolulu. A total of 2,169 permits, at an estimated cost of $567,196.50, were issued to Japanese contractors, and only 233 permits, at an estimated cost of $137,499, were issued to contractors who employed members of the union.

The carpenters' union in Honolulu does not include any Japanese and in 1929 and early in 1930 its membership was less than 33⅓ per cent of the total membership of the union in 1917–18. The union rate was $6.50 per day of 8 hours, but many members were paid less

and some as low as $4.50 per day. It was estimated by officials of the carpenters' union that in 1929 and 1930 there were approximately 1,000 Japanese carpenters in the Hawaiian Islands, that they or the contractors who employed them do practically all of the building of cottages, repair and jobbing, much of the large contract work, and as much as 90 per cent of all the carpentry work in Honolulu. The rates paid Japanese carpenters range from $3.50 to $5 per day, the latter rate being paid to working foremen.

Cost of Family Relief in 100 Cities, 1929 and 1930

By Glenn Steele, United States Children's Bureau

THE cost of caring for families in need during 1930 in 100 American cities may be estimated at more than $40,000,000. An actual expenditure of $39,397,480 in these metropolitan areas is shown from reports of public and private relief agencies assembled by the Children's Bureau, United States Department of Labor, for the President's Emergency Committee for Employment. This amount represents the cost of the major portion of the relief given in all cities, but falls short of the entire cost owing to the omission of grants by agencies from which reports were not available.

The reported expenditure for 1930 is an increase of 89 per cent over the reported disbursements for the needy in the same area in 1929, when $20,891,726 was given in relief.

The amounts shown were paid out in direct aid to families. Sums expended by missions, municipal lodging houses or other agencies providing individuals with temporary shelter or food and expenditures by agencies giving relief to veterans only were not included. Mothers' pensions or mothers' allowances were also excluded [1] from the compilation requested by the Committee for Employment, as these grants, usually given to support the children of widows, are not appreciably affected by seasonal or economic changes.

While the contributions from the public treasury are somewhat understated, owing to the omission of mothers' aid and to the fact that some private agencies derive funds from public sources, nevertheless it was found that the major portion of the expense of caring for families in want was paid out of public funds. A comparison of relief given by public and private agencies, based on returns from 75 of the 100 cities, shows that 72 per cent of the amount given in 1930 came from the public treasury as compared to 60 per cent in 1929. This indicates that the public bore an even larger share of the burden in 1930, when costs were greater, than in the previous year.

A comparison of the percentages of increase in public and private expenditures for relief is more striking. Although the exigencies of 1930 taxed the resources of private agencies to the utmost and in their rally to meet the need 48 per cent more money was raised and disbursed in 1930 than in 1929, the public departments extended their 1930 relief grants to a sum 146 per cent greater than that given in the preceding year.

The proportion of relief given by the public and the increase in public expenditures in 1930 over 1929 do not loom so large when

[1] Except for 5 cities not segregating mothers' aid from amounts reported.

Detroit, one of the 75 cities in the group discussed, is omitted from the calculations. In the Detroit area, where funds for relief are nearly all derived from taxation, the public expenditure for relief in 1930, $8,680,017, more than equaled the combined contributions, $8,599,459, from the public treasuries of the 74 remaining cities. However, if Detroit is omitted from the group, it is still found that the taxpayer footed the larger part of the 1930 relief bill (56 per cent). The increase in public expenditures during 1930 over those of the preceding year is sharply reduced (from 146 to 64 per cent) when Detroit is not considered. While in a countrywide survey of relief conditions, Detroit can not be erased from the picture of which it forms so important a part, group findings are greatly influenced by the extended scale of its relief operations.

Sources of Information

THE foregoing conclusions on the amount of the relief bill in representative urban centers and the proportion met by tax and by private subscription are afforded by a compilation of relief statistics secured from various sources. In the fall of 1930 the President's Emergency Committee for Employment requested the Children's Bureau to assemble information concerning the amount expended for family relief, the number of families aided, and the number of homeless or transient persons cared for, by months, during 1929 and 1930, in cities of 50,000 or more population.

As a nucleus of the desired information, the bureau had reports on relief beginning with July, 1930, from cities participating in its registration of social statistics, a service carried on in cooperation with community chests. Previous reports from these cities were available from the joint committee of the National Association of Community Chests and Councils, and the local Community Research Committee of the University of Chicago, which transferred the registration project to the Children's Bureau July 1, 1930.

This material was supplemented by information from all other available sources. Statistics for larger cities not included in the bureau's registration area were secured through the courtesy of the Russell Sage Foundation. Reports on relief were also sought by direct communication to community chests or to family welfare agencies in all cities of the 50,000 to 100,000 population class not previously reporting to the Children's Bureau. Beginning with a summary for September, 1930, statistics secured from these various sources have been compiled monthly by the Children's Bureau for the employment committee.

With the completion of the December, 1930, tabulation, a picture was afforded of the trend taken by relief operations over a 2-year period. For this period data on the cost of family relief, to which this analysis is limited, were assembled from 60 cities of 100,000 or more inhabitants and 40 cities in the 50,000 to 100,000 population class. Of wide geographic distribution, and diverse in economic and industrial characteristics, the cities form a representative American group. For each city, the figures cover the field of operation of reporting agencies, usually more extensive than that bounded by city limits and often including the county unit.

The aggregate expenditures in 1929 and 1930 for the group, and for each class of cities, with percentages to indicate the increases for 1930, are shown in the following table:

TABLE 1.—EXPENDITURES FOR FAMILY RELIEF DURING 1929 AND 1930 IN 100 CITIES OF 50,000 OR MORE POPULATION

Class of cities	Relief expenditures		
	1929	1930	Per cent of increase
Cities with population of 100,000 or more	$18,643,729	$35,848,141	92.3
Cities with population of 50,000 to 100,000	2,247,997	3,549,339	57.9
Total	20,891,726	39,397,480	88.6

By comparing the advance in relief bills it will be seen that both the larger cities and those of moderate size were obliged last year to increase greatly their care for the needy, the sums spent being, respectively, 92 per cent and 58 per cent higher than in 1929. Without knowing whether resources have met requirements, it seems safe to assume that on the whole, the cities of from 50,000 to 100,000 population experienced less severe conditions last year than the larger industrial centers.

Further evidence to this effect was found when the cities in each group were ranked according to the percentage of change in relief expenditures. The array for each class showed that one-half of the cities of smaller size increased their expenditures for relief by 42 or more per cent, whereas in one-half of the larger cities 1930 relief expenditures exceeded those of 1929 by 55 or more per cent.

Monthly disbursements for relief in the group of 100 cities are shown for the years 1929 and 1930 in Table 2:

TABLE 2.—MONTHLY EXPENDITURES FOR FAMILY RELIEF DURING 1929 AND 1930 IN 100 CITIES OF 50,000 OR MORE POPULATION

Month	Relief expenditures		Month	Relief expenditures	
	1929	1930		1929	1930
January	$1,909,005	$2,914,210	July	$1,531,708	$2,548,072
February	1,911,193	2,992,955	August	1,441,941	2,539,547
March	1,903,255	3,306,161	September	1,418,523	2,846,061
April	1,702,256	3,151,112	October	1,596,836	3,423,651
May	1,590,425	2,655,194	November	1,859,455	4,017,189
June	1,464,685	2,442,220	December	2,562,444	6,561,108

To illustrate the course taken by relief operations over the 2-year period a graphic representation of these figures is given in Chart I. The graph shows that the expenditures for 1930 are on a much higher level than those of 1929 and that for the summer months of 1930 relief agencies were obliged to meet monthly bills larger than those of normal winter months, as expressed by disbursements in January and February of 1929.

The usual upward sweep of relief as winter approaches is observed for both years, but the curve for 1930 shows a much sharper ascent

CHART 1.—TREND OF EXPENDITURES FOR FAMILY RELIEF IN 100 CITIES, 1929 AND 1930

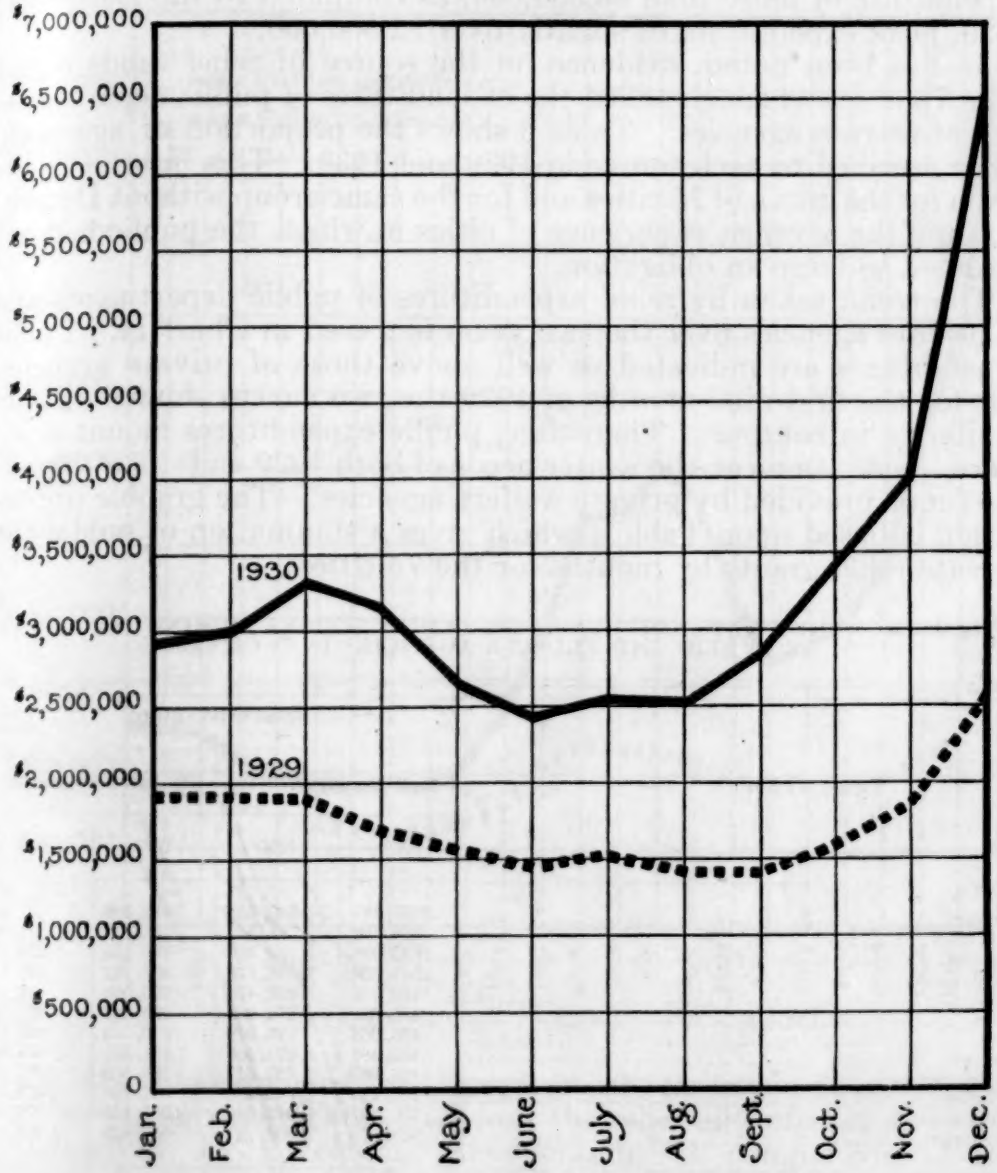


TABLE 3.—EXPENDITURES FOR FAMILY RELIEF DURING 1929 AND 1930 BY PUBLIC AND PRIVATE AGENCIES IN 75 CITIES AND IN THE SAME CITIES EXCLUSIVE OF DETROIT

Group and year	Relief expenditures				
	By public departments		By private agencies [1]		Total
	Amount	Per cent of total	Amount	Per cent of total	
1929:					
Detroit	$1,778,322	94.9	$96,235	5.1	$1,874,557
All other cities	5,245,118	53.6	4,541,561	46.4	9,786,679
Total	7,023,440	60.2	4,637,796	39.8	11,661,236
1930:					
Detroit	8,680,017	97.7	200,378	2.3	8,880,395
All other cities	8,599,459	56.4	6,652,929	43.6	15,252,388
Total	17,279,476	71.6	6,853,307	28.4	24,132,783

[1] May include public funds expended by private agencies.

than that for 1929 and culminates in a December peak, representing an expenditure of more than $6,500,000, as compared to the December, 1929, peak expenditure of slightly over $2,500,000.

As has been noted, evidence on the source of relief funds comes from 75 cities which classified the expenditures of public departments and of private agencies. Table 3 shows the proportion of aggregate relief ascribed to each source in 1929 and 1930. This information is given for the group of 75 cities and for the same group without Detroit, to show the average experience of cities in which the public had not assumed so large an obligation.

The trend taken by relief expenditures of public departments and of private agencies over the two years is traced in Chart II. Public expenditures are indicated as well above those of private agencies, but for the first nine months of 1929 the two curves show a distinct similarity in contour. Thereafter, public expenditures mount much more rapidly to meet the winter needs of both 1929 and 1930 than do the funds provided by private welfare agencies. The graphic presentation is based upon Table 4 which gives a summation of public and private relief grants by months for the 75 cities:

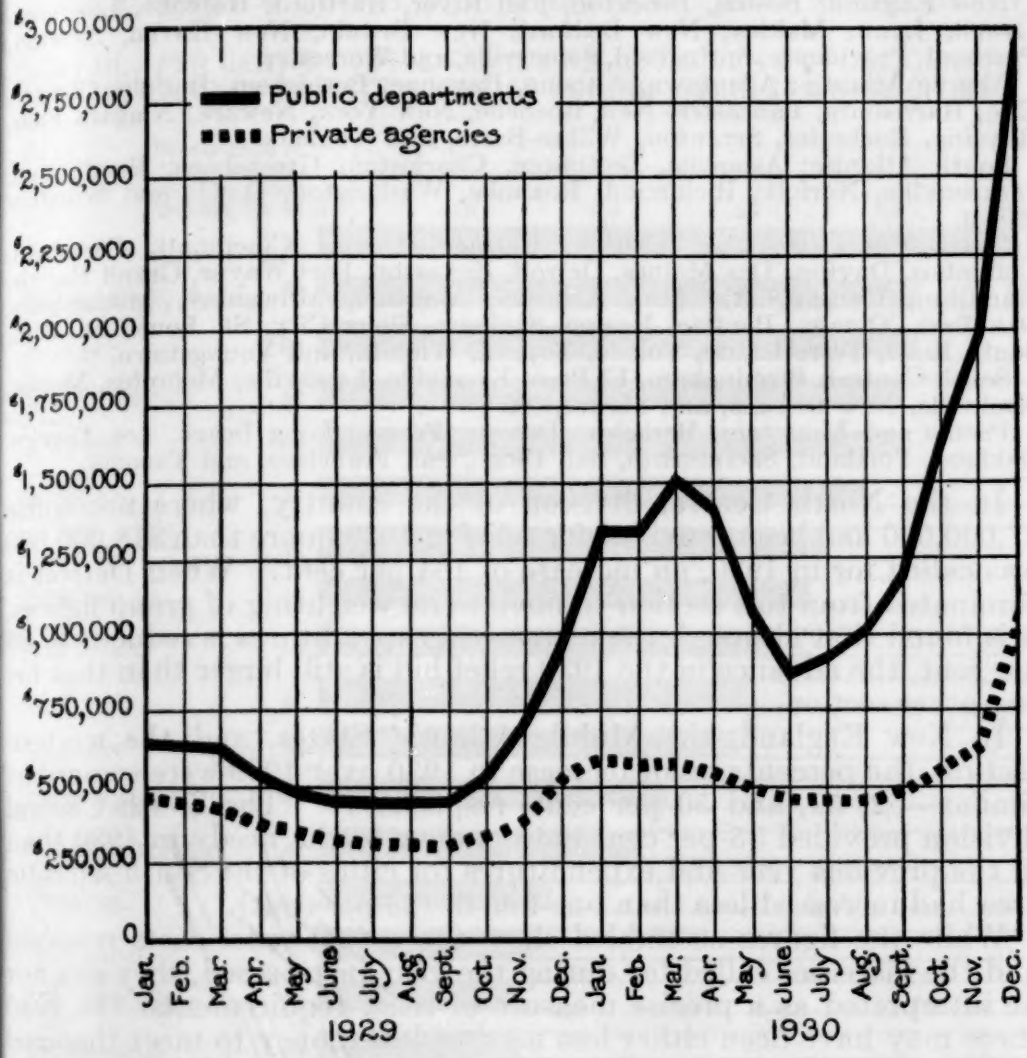
TABLE 4.—MONTHLY EXPENDITURES FOR FAMILY RELIEF DURING 1929 AND 1930 BY PUBLIC AND PRIVATE AGENCIES IN 75 CITIES

Month	Relief expenditures			
	By public departments		By private agencies [1]	
	1929	1930	1929	1930
January	$657,187	$1,340,535	$472,198	$594,401
February	639,702	1,344,849	456,124	571,963
March	635,996	1,519,399	439,139	576,579
April	543,506	1,418,818	387,142	548,306
May	489,755	1,088,478	360,966	495,711
June	456,520	874,983	326,562	459,247
July	456,063	926,049	310,712	455,350
August	452,381	1,021,669	311,535	451,698
September	459,965	1,182,517	304,600	481,537
October	546,123	1,646,560	347,166	559,886
November	710,267	1,962,398	387,153	624,114
December	975,975	2,953,221	534,499	1,034,515

[1] May include public funds expended by private agencies.

While the aggregate figures give a composite picture of the relief bill in 100 cities and the method of meeting it in 75 cities, there were wide variations from city to city. Chart III shows the way in which each of 24 cities, reporting to the Children's Bureau for its registration of social statistics, provided the 1930 funds for its poor. From the two bottom bars it is seen that in Washington, D. C., for which Congress makes no appropriation to provide outdoor relief, and in New Orleans, La., the entire burden of caring for families in distress was met by private contribution. On the other hand, in Detroit and in Springfield, Mass., represented in the two top bars, relief funds were largely derived from public sources. Intermediate bars show the varying practices of other cities.

CHART II.—TREND OF FAMILY RELIEF EXPENDITURES BY PUBLIC DEPARTMENTS AND BY PRIVATE AGENCIES IN 75 CITIES, 1929 AND 1930



The amounts expended for the upkeep of families in financial need have been grouped in Table 5 to show the relief bills of 1929 and 1930 in 100 cities, by a regional classification. A comparison of the increases in the cost of aid in each section, as represented by the specified cities, is interesting.

TABLE 5.—EXPENDITURES FOR FAMILY RELIEF DURING 1929 AND 1930 IN 100 CITIES OF 50,000 OR MORE POPULATION, BY GEOGRAPHIC DIVISION.

Geographic division	Relief expenditures		
	1929	1930	Per cent of increase
New England	$5,213,268	$7,906,519	51.7
Middle Atlantic	4,448,701	7,085,650	59.3
South Atlantic	687,570	843,517	22.7
North Central	6,867,925	18,127,848	163.9
South Central	387,246	520,885	34.5
Pacific and Mountain	3,287,016	4,913,061	49.5
Total	20,891,726	39,397,480	88.6

The cities included in the various geographic sections are as follows:

New England: Boston, Brockton, Fall River, Hartford, Holyoke, Lawrence, Lowell, Lynn, Malden, New Bedford, New Britain, New Haven, Newton, Portland, Providence, Springfield, Somerville, and Worcester.

Middle Atlantic: Allentown, Altoona, Bayonne, Bethlehem, Buffalo, Chester, Erie, Harrisburg, Lancaster, New Rochelle, New York, Newark, Niagara Falls, Reading, Rochester, Scranton, Wilkes-Barre, and Yonkers.

South Atlantic: Asheville, Baltimore, Charleston, Greensboro, Huntington, Jacksonville, Norfolk, Richmond, Roanoke, Washington, D. C., and Winston-Salem.

North Central: Akron, Canton, Chicago, Cicero, Cincinnati, Cleveland, Columbus, Dayton, Des Moines, Detroit, Evanston, Fort Wayne, Grand Rapids, Hamilton, Kansas City, Mo., Kenosha, Madison, Milwaukee, Minneapolis, Oak Park, Omaha, Pontiac, Racine, Saginaw, Sioux City, St. Louis, St. Paul, South Bend, Terre Haute, Toledo, Topeka, Wichita, and Youngstown.

South Central: Birmingham, El Paso, Knoxville, Louisville, Memphis, Mobile, Nashville, New Orleans, and Shreveport.

Pacific and Mountain: Berkeley, Denver, Fresno, Long Beach, Los Angeles, Oakland, Portland, Sacramento, San Diego, San Francisco, and Tacoma.

In the North Central division of the country, where not quite $7,000,000 had been provided for relief in 1929, more than $18,000,000 was called for in 1930, an increase of 164 per cent. When Detroit is eliminated from this section to obviate its weighting of group figures, it is found that although the increase in expenditures is reduced to 85 per cent, the advance in the 1930 relief bill is still larger than that for any other section.

In New England, the Middle Atlantic States, and the western section, the percentages of increase in 1930 over 1929 were somewhat similar—52, 59, and 50 per cent, respectively. The South Central division provided 35 per cent more money for its needy in 1930 than in the previous year and expenditures for cities of the South Atlantic area had increased less than one-fourth (23 per cent).

While the figures assembled show the actual relief costs reported and the increases called for during the year just passed, they can not be interpreted as a precise measure of relief requirements. In 1930 there may have been either less need or less money to meet the need in those areas in which relief expenses for that year did not greatly exceed those of 1929. However, in some of the large cities of the North Central division, where industry is concentrated, increases in relief bills, varying from 100 to 400 per cent, denote an unprecedented demand for family aid.

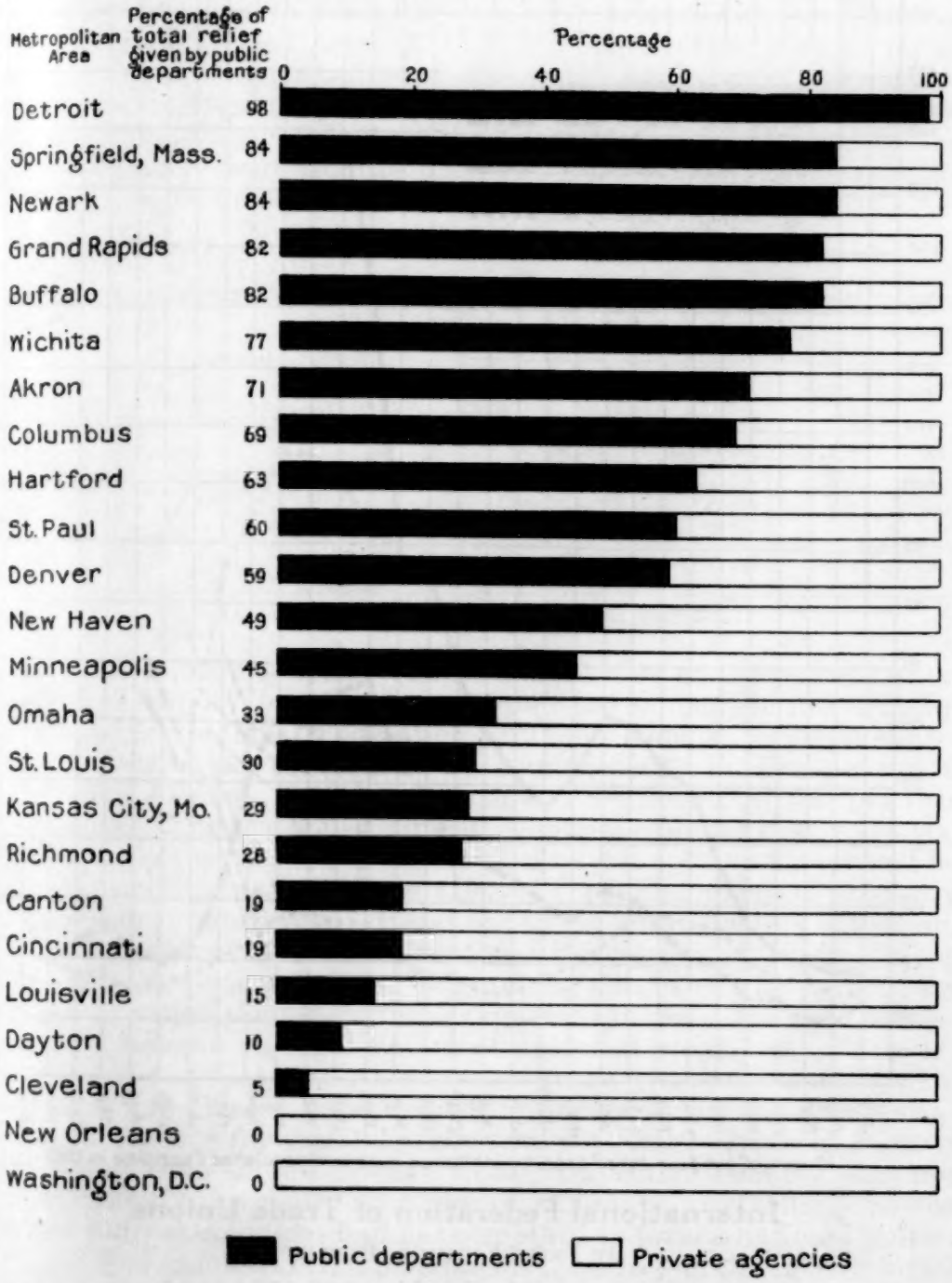
A graphic illustration of the relief problem in one city of this section has been furnished the Children's Bureau by the Welfare Federatoin of Cleveland, Ohio, and is reproduced on page 28.

The heightened relief curve for July, 1929, to January, 1931, may be compared to a curve for July, 1920, to December, 1922, when conditions also called for an advanced outlay for relief, and again to a curve representing disbursements as calculated for a normal period.

The chart also permits an interesting comparison between the amount paid out for relief during the winter of 1930 and through January, 1931, and the amount of money provided therefor in the budget of the associated charities. Expenditures to meet the winter needs had leaped to heights far beyond the budget provisions and could be supplied only by dipping into funds reserved for the remainder of the year.

Additional information accompanying financial reports has come to the Children's Bureau from many other parts of the country.

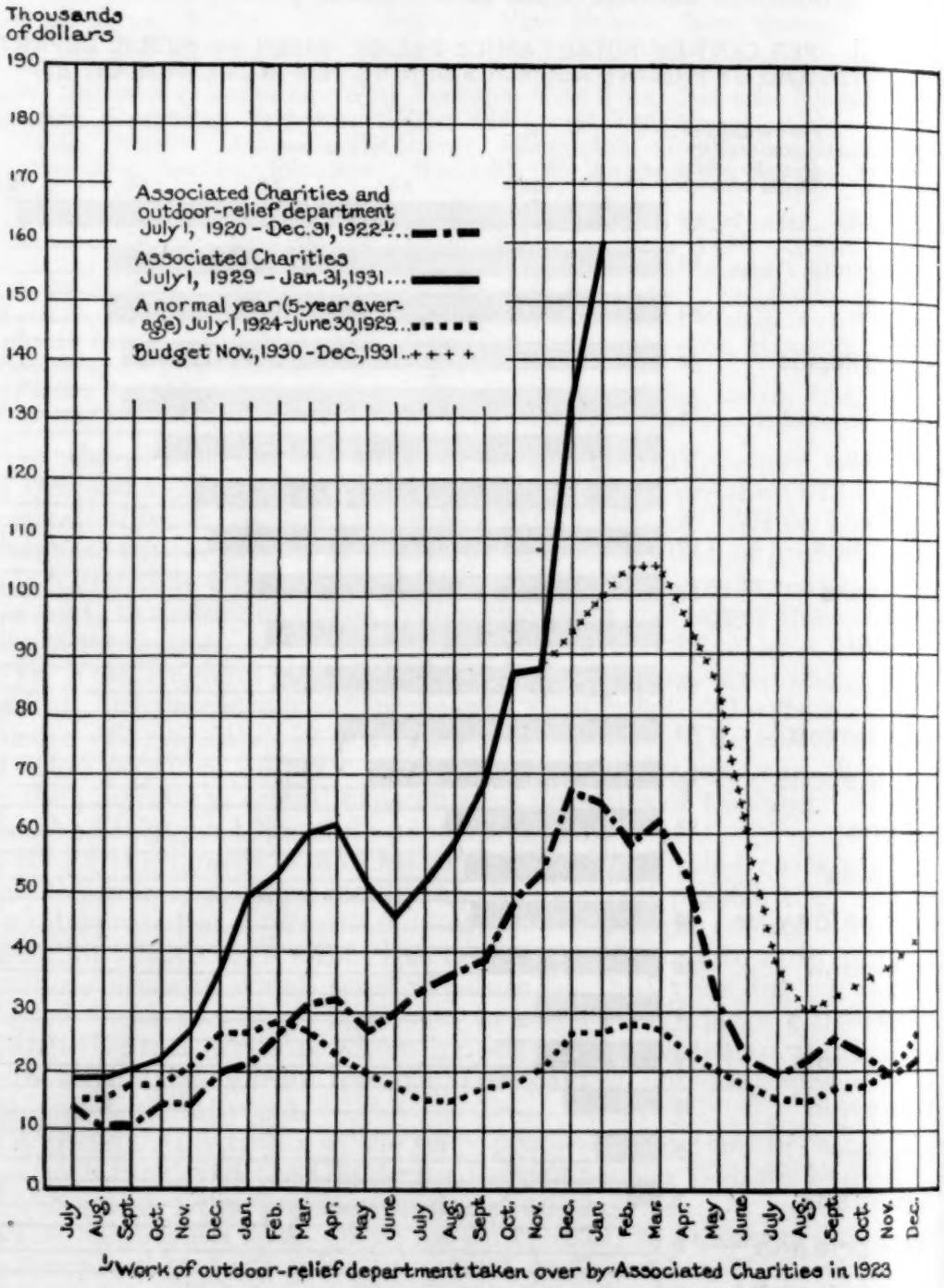
CHART III.—PER CENT OF TOTAL FAMILY RELIEF[1] GIVEN BY PUBLIC DEPARTMENTS AND BY PRIVATE AGENCIES DURING 1930 IN 24 LARGE CITIES



This supplements the statistical data on the extent of relief with the story of the problems and difficulties faced by welfare agencies during 1930 in their effort to keep urban families from privation.

[1] Excluding mothers' aid and veterans' relief.

CHART IV.—TREND OF FAMILY RELIEF EXPENDITURES OF THE ASSOCIATED CHARITIES, CLEVELAND, OHIO



International Federation of Trade Unions

By FRITZ KUMMER, BERLIN

Membership

INTERNATIONAL trade-union statistics are not so complete as could be desired. It has not yet been possible to give the exact total number of persons throughout the world organized into trade-unions. Several reasons can be advanced to account for this incompleteness. In various countries the trade-union movement is still passing through the initial stages of development, and where this is

the case the membership returns naturally show considerable fluctuation. Moreover, in a number of countries the individual organizations have not combined to form national centers, and the local and professional groups are not connected with each other, so that it is hard, sometimes impossible, to state the exact number of members.

In spite of all these difficulties, the secretariat of the International Federation of Trade Unions (I. F. T. U.) endeavors to give, as far as possible, complete statistics of the world trade-union movement. With each succeeding year these statistics have become more and more complete. According to the latest figures, at the end of the year 1928 there were slightly over 44,000,000 trade-unionists in the world, or, to be more exact, in 76 different countries.

TABLE 1.—DISTRIBUTION OF TRADE-UNION MEMBERSHIP, 1927 AND 1928

Continent	Membership on—		Per cent of total	
	Dec. 31, 1927	Dec. 31, 1928	1927	1928
Europe	33,936,784	35,392,081	73.5	80.1
America	7,416,491	6,947,296	16.1	15.7
Australasia	991,652	1,018,457	2.1	2.3
Asia	3,697,800	742,194	8.1	1.7
Africa	144,333	90,497	.3	.2
Total	[1] 46,187,060	[2] 44,190,525	100.0	100.0

[1] 62 countries. [2] 76 countries.

Of these 44,000,000 trade-unionists there were at the end of 1929 a total of 13,800,567 (of whom 13 per cent are women) in membership with the International Federation of Trade Unions. This membership is distributed throughout 27 countries—22 in Europe and 5 (Argentina, Canada, Palestine, South and Southwest Africa) in other continents. The five non-European countries embrace nearly 273,000 members, that is, about 2 per cent of the total. From this it will be seen that the International Federation of Trade Unions is still primarily a European organization. Because of this unsatisfactory situation, the 1927 congress of the International Federation of Trade Unions adopted a resolution "to investigate the causes of the inadequate manner in which the federation is organized in order that the federation may become an organization of universal scope and influence." In pursuance of that resolution invitations to join the federation were sent to 17 unaffiliated organizations. In the replies to these invitations the reasons for nonaffiliation were set forth. In most cases it was stated that trade-unionism in the respective country was not yet sufficiently developed to allow of affiliation, particularly as the various individual unions had not combined to form a national center; as individual unions it is not possible for them to join the International Federation of Trade Unions because only federations of trade-unions can become affiliated to this body. Other reasons for nonaffiliation were failure to recognize the advantages to be gained as a result of international cooperation, lack of funds, or the fact that the organizations were not prepared to bear the expense incident to membership in the federation.

Table 2 shows the international trade-union membership in the various countries at the end of 1929:

TABLE 2.—MEMBERSHIP OF INTERNATIONAL FEDERATION OF TRADE UNIONS, DECEMBER, 1929

Country	Trade-union membership	Country	Trade-union membership
Argentina	82,000	Latvia	23,556
Austria	766,168	Luxemburg	15,377
Belgium	528,380	Memel	1,064
Bulgaria	1,269	Palestine	26,049
Canada	156,000	Poland	231,369
Czechoslovakia	554,074	Rumania	41,421
Denmark	250,162	South Africa	8,212
Estonia	5,713	Southwest Africa	600
France	640,790	Spain	225,000
Germany	5,420,533	Sweden	508,107
Great Britain	3,673,144	Switzerland	186,651
Greece	39,500	Yugoslavia	36,044
Netherlands	255,384		
Hungary	124,000	Total	13,800,567
Italy	(1)		

[1] No data.

Relations with American Federation of Labor.—The International Federation of Trade Unions has persistently sought to induce the American Federation of Labor to affiliate, and the European trade-union movement is constantly stressing the importance of joining hands with the trade-unions of North America. It would mean a great addition to the numerical and moral influence of the Amsterdam International if that body included within its ranks the trade-unions of the world's greatest industrial country. However, as yet the relationship between the two organizations has not developed beyond mutual friendship. The American Federation of Labor has advanced two objections to affiliation: "The constitution of the International Federation of Trade Unions abrogates the principles of complete autonomy for national trade-union federations, and the affiliation would place upon the American Federation of Labor a heavy expense, which it is not prepared to meet." The soundness of the first objection is greatly questioned by the International Federation of Trade Unions, which points out that in no instance has the autonomy of any of its affiliated organizations been jeopardized and that such a step would never be contemplated. But this intimation has evidently not allayed the fears of the American Federation of Labor. In any case, no substantial change has taken place in the relations of the two organizations.

Relations with Russian trade-unions.—The question of the affiliation of the Russian trade-unions to the International Federation of Trade Unions, or their mutual rapprochement, has been frequently discussed in the trade-union world of Europe during the last few years. The proposal has been advanced chiefly by the British organization. At the meeting of the general council of the International Federation of Trade Unions in January, 1927, the British body proposed the convening of a conference of representatives of the International Federation of Trade Unions and of the All-Russian Trade Union Council without preliminary conditions by either side.

The motion was rejected by 12 votes to 6. Since that time the desire to come to a working agreement with the Russian trade-unions has disappeared, mainly because of the attitude of the Russians toward the British trade-unions during and subsequent to the general strike. One or two Russian trade-unions were, up to a recent date, cooperating with individual international trade-union secretariats affiliated to the International Federation of Trade Unions, but this was little more than a paper relationship. The suggestion of a conference with the Russian trade-union organization was renewed in 1928 by the trade-union centers of Finland and Norway, but this also was rejected. In a few smaller countries there may still exist a certain sentiment for cooperation with the Russians. This sentiment is extremely restricted, however, and shows palpable signs of diminution in consequence of the unpleasant experiences that have marked the previous attempts in this direction. It is improbable that a further demand for cooperation with the Russians will be submitted from any quarter to the International Federation of Trade Unions.

International Trade Secretariats

MEMBERS of the Amsterdam International are internationally united in two ways: They are affiliated through their national centers to the International Federation of Trade Unions and through their trade-unions to the international secretariats of their respective trade or industry. There are 27 such secretariats, whose total membership at the end of the year 1929 numbered 13,669,222. These were distributed, by trade, as shown in Table 3:

TABLE 3.—MEMBERSHIP OF INTERNATIONAL TRADE SECRETARIATS, DECEMBER 31, 1929

Trade or occupation	Membership	Trade or occupation	Membership
Building workers	1,009,771	Food and drink workers	382,400
Clothing workers	256,839	Lithographers	62,303
Miners	1,700,000	Painters	250,303
Bookbinders	92,000	Metal workers	1,841,389
Typographers	[1] 188,487	Public service employees	513,358
Diamond workers	[1] 23,891	Postal employees	436,237
Factory workers	595,000	Commercial, clerical, and technical employees	779,729
Hairdressers	[1] 9,572	Leather workers	314,152
Glass workers	[1] 98,676	Stone workers	123,774
Woodworkers	1,000,000	Tobacco workers	130,946
Hotel employees	76,500	Textile workers	913,379
Hatters	36,500	Transport workers	2,250,000
Pottery workers	146,676		
Land workers	332,340	Total	13,669,222
Teachers	105,000		

[1] End of 1928.

These international secretariats are completely autonomous, but work hand in hand with the International Federation of Trade Unions, whose decisions they put into practice. It is demanded of them, however, that, in decisions and actions where larger issues are concerned, they act only in unison with the International Federation of Trade Unions or with the national trade-union center in question. In order to keep the secretariats in touch with the International Federation of Trade Unions a conference is held annually between representatives of the secretariats and the committee of the international, each secre-

tariat sending two representatives. Furthermore, the international secretariats have advisory votes in the congresses of the International Federation of Trade Unions. Repeated unsuccessful attempts have been made to incorporate the secretariats into the organization of the International Federation of Trade Unions in order to insure their greater cooperation. At present, in accordance with a decision of the last congress, the bureau of the International Federation of Trade Unions is studying how the secretariats may be incorporated into the organization of the international.

The secretariats deal with the international problems of their trade or industry and with wage questions and labor conditions, and give support to financially weak organizations in the event of strikes or other matters. They also publish journals in several languages, chiefly in French, English, and German. The annual reports of the secretariats are excellent sources of information in regard to the international situation of the respective industries, as well as in regard to the activities and aspirations of their affiliated organizations.

International Trade-Union Congress at Stockholm

THE fifth congress of the International Federation of Trade Unions, which took place at Stockholm in the second week of July, 1930, was attended by 129 representatives and fraternal delegates. Among the fraternal delegates were representatives from Japan, Australia, New Zealand, India, and Egypt. The congress had to adopt an international economic program and a social-political one, it had to treat the question of disarmament and of the trade-union movement in countries without democratic government, and finally, it had to decide with reference to the removal of the headquarters of the International Federation of Trade Unions to another country than the Netherlands.

The economic program adopted is divided into two parts, one dealing with international and the other with national matters. The first proposes an international economic board, created by the League of Nations with the cooperation of the organized workers; the effective control of trusts and syndicates; the abolition of tariff restrictions and of embargoes on imports and exports; the establishment of economic courts to settle economic conflicts between countries; and the equalization of wages by fixing international minimum standards of working conditions. The national section of the program would provide safeguards for the workers against rationalization; the participation of the trade-unions in all processes of rationalization; the transference to other lines of work of employees losing their jobs; and the payment of unemployment benefits without limit as to time. Under the international's program the extra profits resulting from rationalization would inure to the community through the reduction of prices, the increase of real wages, and a shortening of working hours. Public services would be increased in scope, and natural resources and the conveyance of goods would be nationalized. The cooperative movement is indorsed and work toward its extension is favored. Finally, the program demands the formation of national economic councils and the representation of the trade-unions therein. Labor organizations are urged to strive for publicity on all the internal economic and industrial activity and arrangements, and for a proper economic policy.

The social-political program demands the insurance of all working men and women against illness, invalidity, old age, death, unemployment, maternity, accident, and occupational diseases; vacations; protective measures for children, juveniles, and women; the technical and professional education of apprentices; freedom of meetings and unions; liberty to strike; arbitration courts for settling wage disputes; special courts for the settlement of other disputes between employers and workers; and the right of the workers to a voice in the conduct of the factories.

Following the adoption of the social program, the congress discussed the question of working hours. Complaint was made that the Washington agreement concerning the 8-hour day, although in existence for 10 years, had not yet been ratified by most countries. It was further stated that even the 8-hour day is now too long; the improvement in the machinery of production makes shorter hours necessary, from the economic point of view. For this reason the congress demanded an early introduction of the 44-hour week as the first step to a further shortening of the working time. For this end the trade-unions in all countries are to start a strong movement.

The congress put itself on record as opposing war and as urging the immediate limitation and reduction of military armament and production and commerce in arms and other war materials, and the extension of the obligatory arbitration court.

Due to the changes of different European countries from the democratic form of government to that of a dictatorship a very serious problem has arisen for the trade-unions. In these countries it is charged that the workers have been robbed of their trade-union work, their organizations have been destroyed, and the active members have been imprisoned or have fled abroad. Under these circumstances it has become impossible for the workers to improve their economic position. The consequences are sinking wages and prolonged hours—in fact the loss of all trade-union gains. Other countries are being influenced by the example of these countries and are reducing the economic standards of the workers and their public and other rights. After discussing these matters the congress passed a resolution pledging active support in the resistance of the workers against dictatorship and in assisting its victims financially and morally, in helping toward the reestablishment of trade-unions and their full rights, and in inducing the League of Nations to provide the fugitive unionists with passports.

A most important question before the congress was as to the removal of the headquarters of the International Federation of Trade Unions from Amsterdam to another city. The removal had been determined by the Paris congress three years ago, but its realization had been hindered by several obstacles; also, some circles of the international held the opinion that the removal had become unnecessary because in the interval the grounds on which the decision was based had been removed. Nevertheless, in Stockholm again it was argued that in order to imbue the management of the international with more life and activity its secretariat should be moved into a country with a highly developed industry and with a strong trade-union movement. Apart from that, Netherland's capital, situated on the extreme northwestern point of Europe, necessitates a somewhat

complicated and expensive connection. Finally, none of the three world languages is spoken in the Netherlands, resulting in unnecessary expense and difficulties in recruiting the staff.

As the leading bodies of the international had not been able to agree regarding the removal, the matter had again to be discussed by the congress in Stockholm. Berlin was proposed as the future seat of the international, and this was favored by the German delegation, provided a majority of the congress—without the German vote—assented. Berlin was finally named as the future headquarters by a vote of 55 to 30, and the removal of the office to that city is to take place in April, 1931.

EMPLOYMENT CONDITIONS AND RELIEF

Unemployment in the United States, 1930 and 1931

Estimated Unemployment in the Continental United States, January, 1931

ON THE basis of the special unemployment census made during the latter half of January, 1931, and covering 19 cities, Robert P. Lamont, Secretary of Commerce, has estimated that a total of 6,050,000 able-bodied persons in the United States were out of jobs, able to work, and seeking work at that time.[1]

The special census of unemployment was undertaken in January, the month when unemployment normally reaches a seasonal peak, in order that the maximum unemployment due to the world-wide business depression might be revealed. For the 19 cities covered in the special census of unemployment (the details of which are given later in this article) a 149 per cent increase was reported in the number of persons out of a job, able to work, and looking for a job (class A) between April, 1930, and January, 1931. By applying this percentage to the total number of persons out of a job, able to work, and looking for a job in the United States as a whole as of April, 1930, or 2,429,062, the total of 6,050,000 is arrived at. This basis of estimate of the increase in unemployment between April, 1930, and January, 1931, presupposes that the percentage increase in unemployment since last April has been as great in the rural areas as in the cities.

In addition to the unemployed falling under class A, the January census of 19 cities showed that there were 368,149 persons having jobs but not working and not receiving pay on the day before the call of the enumerator, excluding those sick or voluntarily idle (class B). Such tabulations of the census as are complete show that 75 per cent of the workers in class B were employed part time, and that the remainder had been laid off for more than a week. If this ratio prevails throughout the 19 cities it would indicate that one-fourth of the total of 368,149 persons, or 92,000, had been out of work for more than a week, although they considered themselves as having jobs. It is stated by Secretary Lamont that neither the data available for the April, 1930, or January, 1931, census make it possible to determine accurately the total number of individuals throughout the country who should be regarded as unemployed because of having been temporarily laid off from their regular jobs. However, Secretary Lamont states that it appears that an additional 250,000 to 300,000 workers were not working because of lay-off in January, 1931.

The detailed results of the April, 1930, and the January, 1931, unemployment censuses are given below.

[1] Press release of Mar. 21, 1931.

Unemployment Census of April, 1930

In a press release of March 21, 1931, the Director of the Census has announced the final unemployment returns by classes for the entire continental United States from the census of April, 1930. The census of unemployment was designed to cover all persons usually working at a gainful occupation who were not at work the day preceding the enumerator's call. Returns were tabulated by seven major classes depending upon whether the worker was unemployed involuntarily or voluntarily, unfit to work or fit to work but unable to find a job, etc.

Table 1 shows in summary the results for the United States as a whole. Class A (composed of persons out of a job, able to work, and looking for a job) includes 2,429,062 persons, or 2 per cent of the total population of the United States (122,775,046). Class B (persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle) accounts for 758,585 persons, or 0.6 per cent of the total population, while classes C, D, E, F, and G account for relatively small numbers of the population.

Table 1.—Unemployment returns by classes and sex, United States, April, 1930

Description of class	April, 1930
Total population	122,775,046
Class A. Persons out of a job, able to work, and looking for a job:	
Male	2,058,738
Female	370,324
Total	2,429,062
Per cent of population	2.0
Class B. Persons having jobs, but on lay-off without pay, excluding those sick or voluntarily idle:	
Male	627,407
Female	131,178
Total	758,585
Per cent of population	0.6
Class C. Persons out of a job and unable to work: Total, both sexes	172,661
Class D. Persons having jobs but idle on account of sickness or disability: Total, both sexes	273,588
Class E. Persons out of a job and not looking for work: Total, both sexes	87,988
Class F. Persons having jobs but voluntarily idle, without pay: Total, both sexes	84,595
Class G. Persons having jobs and drawing pay though not at work (on vacation, etc.): Total, both sexes	82,335

Table 2 shows the returns by States, but in this table the statistics for classes C to G, inclusive, are combined into one total.

TABLE 2.—UNEMPLOYMENT RETURNS BY STATES AND GEOGRAPHIC DIVISIONS, APRIL, 1930

State, and geographic division	Total population	Class A: Persons out of a job, able to work, and looking for a job			
		Male	Female	Total	Per cent of population
United States	122,775,046	2,058,738	370,324	2,429,062	2.0
New England:					
Maine	797,423	11,463	1,956	13,419	1.7
New Hampshire	465,293	6,866	1,318	8,184	1.8
Vermont	359,611	4,647	646	5,293	1.5
Massachusetts	4,249,614	93,579	22,631	116,210	2.7
Rhode Island	687,497	17,502	4,935	22,437	3.3
Connecticut	1,606,903	32,340	5,890	38,230	2.4
Middle Atlantic:					
New York	12,588,066	298,731	55,659	354,390	2.8
New Jersey	4,041,334	98,518	17,787	116,305	2.9
Pennsylvania	9,631,350	180,106	27,585	207,691	2.2
East North Central:					
Ohio	6,646,697	140,697	19,239	159,936	2.4
Indiana	3,238,503	53,445	7,269	60,714	1.9
Illinois	7,630,654	195,493	31,506	226,999	3.0
Michigan	4,842,325	140,653	17,159	157,812	3.3
Wisconsin	2,939,006	41,889	5,093	46,982	1.6
West North Central:					
Minnesota	2,563,953	38,377	6,168	44,545	1.7
Iowa	2,470,939	19,109	3,231	22,340	.9
Missouri	3,629,367	53,136	10,277	63,413	1.7
North Dakota	680,845	5,220	762	5,982	.9
South Dakota	692,849	3,037	479	3,516	.5
Nebraska	1,377,963	12,322	2,456	14,778	1.1
Kansas	1,880,999	19,341	2,816	22,157	1.2
South Atlantic:					
Delaware	238,380	2,636	551	3,187	1.3
Maryland	1,631,526	20,495	3,943	24,438	1.5
District of Columbia	486,869	6,418	2,581	8,999	1.8
Virginia	2,421,851	21,112	5,349	26,461	1.1
West Virginia	1,729,205	19,374	2,001	21,375	1.2
North Carolina	3,170,276	20,847	7,774	28,621	.9
South Carolina	1,738,765	8,346	3,604	11,950	.7
Georgia	2,908,506	19,626	8,046	27,672	1.0
Florida	1,468,211	24,733	8,387	33,120	2.3
East South Central:					
Kentucky	2,614,589	25,038	4,414	29,452	1.1
Tennessee	2,616,556	15,884	4,528	20,412	.8
Alabama	2,646,248	17,461	3,980	21,441	.8
Mississippi	2,009,821	8,124	2,674	10,798	.5
West South Central:					
Arkansas	1,854,482	10,465	2,355	12,820	.7
Louisiana	2,101,593	25,043	5,823	30,866	1.5
Oklahoma	2,396,040	33,131	4,202	37,333	1.6
Texas	5,824,715	63,543	12,284	75,827	1.3
Mountain:					
Montana	537,606	9,886	1,077	10,963	2.0
Idaho	445,032	5,414	780	6,194	1.4
Wyoming	225,565	3,312	407	3,719	1.6
Colorado	1,035,791	19,595	3,101	22,696	2.2
New Mexico	423,317	5,117	537	5,654	1.3
Arizona	435,573	7,156	834	7,990	1.8
Utah	507,847	7,755	957	8,712	1.7
Nevada	91,058	2,720	168	2,888	3.2
Pacific:					
Washington	1,563,396	31,428	5,544	36,972	2.4
Oregon	953,786	21,356	4,126	25,482	2.7
California	5,677,251	136,252	25,435	161,687	2.8

TABLE 2.—UNEMPLOYMENT RETURNS BY STATES AND GEOGRAPHIC DIVISIONS, APRIL, 1930—Continued

State, and geographic division	Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle				Classes C, D, E, F, and G: Total persons
	Male	Female	Total	Per cent of population	
United States	627,407	131,178	758,585	0.6	701,167
New England:					
Maine	5,756	1,885	7,641	1.0	6,150
New Hampshire	3,627	1,720	5,347	1.1	3,117
Vermont	2,190	719	2,909	.8	2,573
Massachusetts	32,347	12,837	45,184	1.1	27,963
Rhode Island	8,724	4,966	13,690	2.0	5,192
Connecticut	9,552	3,027	12,579	.8	8,897
Middle Atlantic:					
New York	59,145	14,480	73,625	.6	69,254
New Jersey	18,733	5,264	23,997	.6	21,463
Pennsylvania	105,160	12,641	117,801	1.2	58,330
East North Central:					
Ohio	47,619	7,011	54,630	.8	42,957
Indiana	22,292	3,373	25,665	.8	19,958
Illinois	48,922	6,930	55,852	.7	46,183
Michigan	34,392	4,784	39,176	.8	29,202
Wisconsin	14,803	2,291	17,094	.6	14,603
West North Central:					
Minnesota	9,132	1,536	10,668	.4	12,133
Iowa	8,141	1,042	9,183	.4	10,012
Missouri	14,341	3,643	17,984	.5	20,449
North Dakota	1,312	181	1,493	.2	1,856
South Dakota	895	101	996	.1	1,762
Nebraska	3,664	628	4,292	.3	5,918
Kansas	5,272	733	6,005	.3	8,090
South Atlantic:					
Delaware	581	145	726	.3	1,178
Maryland	5,883	1,315	7,198	.4	8,848
District of Columbia	1,280	396	1,676	.3	4,193
Virginia	6,899	1,999	8,898	.4	14,252
West Virginia	13,057	902	13,959	.8	12,284
North Carolina	10,672	4,829	15,501	.5	13,294
South Carolina	4,109	3,188	7,297	.4	8,650
Georgia	7,969	3,981	11,950	.4	18,089
Florida	4,253	1,378	5,631	.4	11,224
East South Central:					
Kentucky	10,901	1,917	12,818	.5	13,159
Tennessee	7,108	2,665	9,773	.4	11,679
Alabama	6,873	1,678	8,551	.3	12,508
Mississippi	3,682	1,013	4,695	.2	7,783
West South Central:					
Arkansas	4,893	638	5,531	.3	6,829
Louisiana	6,602	1,928	8,530	.4	10,314
Oklahoma	7,257	768	8,025	.3	10,811
Texas	16,088	3,348	19,436	.3	28,139
Mountain:					
Montana	3,815	229	4,044	.8	3,947
Idaho	1,097	178	1,275	.3	2,606
Wyoming	1,059	122	1,181	.5	1,430
Colorado	6,761	741	7,502	.7	6,999
New Mexico	832	87	919	.2	2,557
Arizona	1,378	155	1,533	.4	3,595
Utah	1,955	292	2,247	.4	2,572
Nevada	250	26	276	.3	856
Pacific:					
Washington	8,154	1,311	9,465	.6	14,494
Oregon	4,853	1,112	5,965	.6	9,280
California	23,127	5,045	28,172	.5	43,535

[1] Persons out of a job and unable to work; having jobs but idle on account of sickness or disability; out of a job and not looking for work; having jobs but voluntarily idle, without pay; and having jobs and drawing pay, though not at work (on vacation, etc.).

Unemployment Census of January, 1931

IN A PRESS release of March 21, 1931, the Director of the Census announced the returns from the special census of unemployment taken in January, 1931, in 19 cities, and the results are here shown, together with the statistics of unemployment for the same cities as of April, 1930. The canvass of January, 1931, was complete, covering the entire population of Birmingham, Boston, Buffalo, Chicago, Cleveland, Dayton, Detroit, Duluth, Houston, Los Angeles, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, and Seattle, with the exception that in New York it was limited to Brooklyn, Bronx, and Manhattan boroughs. The results are shown in summary form in Table 1. According to the census of April, 1930, the total population of these areas was 20,638,981. The total number of persons in these areas reported as out of a job, able to work, and looking for a job (class A) in April, 1930, was 775,565, or 3.8 per cent of the total population, and in January, 1931, 1,930,666, or 9.4 per cent of the total population. The total number of persons returned as having jobs but not working and not receiving pay on the day before the call of the enumerator, excluding those sick or voluntarily idle (class B) in April, 1930, was 138,572, or less than 1 per cent of the total population. In January, 1931, the returns in class B numbered 368,149, or 1.8 per cent of the total population.

In contrast with the returns in classes A and B, the returns in January, 1931, in classes C to G, inclusive [which are made up of (*c*) persons out of a job and unable to work, (*d*) persons having jobs but idle on account of sickness or disability, (*e*) persons out of a job and not looking for work, (*f*) persons having jobs but voluntarily idle without pay, and (*g*) persons having jobs and drawing pay though not at work (on vacation, etc.)], showed a marked decrease as compared with the returns for the corresponding classes in the census of April, 1930. In classes C and D, the sick and disabled, a part of the decrease is attributed to the fact that in the 1931 enumeration hospitals and similar institutions were omitted from the canvass. The Director of the Census notes that persons properly belonging in any of the classes C to G can hardly be regarded as involved in the economic problem of unemployment.

TABLE 3.—COMPARISON OF UNEMPLOYMENT RETURNS, BY CLASSES, IN 19 CITIES APRIL, 1930, AND JANUARY, 1931

Description of class	April, 1930	January, 1931
Total population of 19 cities	20,638,981	(1)
Class A. Persons out of a job, able to work, and looking for a job: Number	775,565	1,930,666
Per cent of population	3.8	9.4
Class B. Persons having jobs, but on lay-off without pay, excluding those sick or voluntarily idle: Number	138,572	368,149
Per cent of population	.7	1.8
Class C. Persons out of a job and unable to work: Number	41,294	19,890
Class D. Persons having jobs but idle on account of sickness or disability: Number	46,067	24,811
Class E. Persons out of a job and not looking for work: Number	18,806	3,034
Class F. Persons having jobs but voluntarily idle, without pay: Number	12,905	2,387
Class G. Persons having jobs and drawing pay though not at work (on vacation, etc.): Number	13,504	4,241

[1] No data.

Table 4 summarizes the returns from the unemployment censuses of April, 1930, and of January, 1931, for each city by classes. In Table 4 classes C to G, inclusive, have been grouped together. These figures are taken from a preliminary count and are subject to possible correction:

TABLE 4.—UNEMPLOYMENT RETURNS BY CLASSES, CENSUS OF APRIL, 1930, AND SPECIAL UNEMPLOYMENT CENSUS, JANUARY, 1931

[19 cities]

City and date	Population, 1930	Class A: Persons out of a job, able to work, and looking for a job		Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle		Classes C, D, E, F, and G:[1] Number of persons
		Number	Per cent of population	Number	Per cent of population	
Total:						
April, 1930	20,638,981	775,565	3.8	138,572	0.7	132,576
January, 1931	(2)	1,930,666	9.4	368,149	1.8	54,363
Birmingham:						
1930	259,678	5,623	2.2	1,125	.4	2,129
1931		22,930	8.8	4,940	1.9	1,070
Boston:						
1930	781,188	26,361	3.4	8,653	1.1	5,827
1931		69,682	8.9	18,749	2.4	3,304
Buffalo:						
1930	573,076	19,920	3.5	2,974	.5	3,663
1931		50,724	8.9	23,077	4.0	1,621
Chicago:						
1930	3,376,438	147,440	4.4	20,494	.6	21,980
1931		369,990	11.0	78,749	2.3	10,009
Cleveland:						
1930	900,429	41,184	4.6	9,051	1.0	7,698
1931		99,233	11.0	25,400	2.8	2,826
Dayton:						
1930	200,982	6,664	3.3	1,108	.6	1,483
1931		17,681	8.8	3,801	1.9	668
Denver:						
1930	287,861	9,331	3.2	1,466	.5	2,263
1931		19,922	6.9	2,498	.9	619
Detroit:						
1930	1,568,662	76,018	4.8	15,979	1.0	10,022
1931		174,527	11.1	49,041	3.1	3,625
Duluth:						
1930	101,463	5,154	5.1	766	.8	586
1931		8,130	8.0	1,330	1.3	200
Houston:						
1930	292,352	7,350	2.5	1,320	.5	2,044
1931		29,163	10.0	2,940	1.0	1,190
Los Angeles:						
1930	1,238,048	44,480	3.6	6,438	.5	10,411
1931		98,130	7.9	7,974	.6	2,879
Minneapolis:						
1930	464,356	13,968	3.0	2,432	.5	3,403
1931		35,158	7.6	3,689	.8	981
New Orleans:						
1930	458,762	16,616	3.6	3,166	.7	3,009
1931		42,482	9.3	6,274	1.4	1,039
New York City:						
Brooklyn—						
1930	2,560,401	80,621	3.1	13,919	.5	10,428
1931		205,192	8.0	35,935	1.4	5,522
Bronx—						
1930	1,265,258	42,416	3.4	7,086	.6	5,915
1931		97,414	7.7	12,334	1.0	2,652
Manhattan—						
1930	1,867,312	79,191	4.2	10,416	.6	12,138
1931		168,322	9.0	13,285	.7	3,665
Philadelphia:						
1930	1,950,961	71,156	3.6	13,485	.7	9,849
1931		212,051	10.9	34,673	1.8	6,195

[1] Persons out of a job and unable to work; having jobs but idle on account of sickness or disability; out of a job and not looking for work; having jobs but voluntarily idle without pay; and having jobs and drawing pay though not at work (on vacation, etc.).

[2] No data.

TABLE 4.—UNEMPLOYMENT RETURNS BY CLASSES, CENSUS OF APRIL, 1930, AND SPECIAL UNEMPLOYMENT CENSUS, JANUARY, 1931—Continued

City and date	Population, 1930	Class A: Persons out of a job, able to work, and looking for a job		Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle		Classes C, D, E, F, and G: Number of persons
		Number	Per cent of population	Number	Per cent of population	
Pittsburgh:						
1930	669,817	20,307	3.0	5,885	0.9	4,890
1931		60,026	9.0	19,561	2.9	2,286
St. Louis:						
1930	821,960	28,022	3.4	7,123	.9	5,369
1931		77,560	9.4	15,065	1.8	1,597
San Francisco:						
1930	634,394	21,448	3.4	3,019	.5	5,161
1931		41,103	6.5	4,942	.8	1,190
Seattle:						
1930	365,583	12,295	3.4	2,667	.7	4,308
1931		31,246	8.5	3,892	1.1	1,225

Report of Advisory Committee on Employment Statistics

ON August 12, 1930, President Hoover appointed a committee to look into the methods used by governmental agencies to measure employment and unemployment, and to make recommendations for the improvement of such methods. The committee, known as the Advisory Committee on Employment Statistics, was composed of James J. Davis (later succeeded by W. N. Doak), R. P. Lamont, Harold F. Browne, John P. Frey, P. W. Litchfield, Noel Sargent, W. M. Steuart, Ethelbert Stewart, Arthur O. Wharton, Leo Wolman, and Joseph H. Willits (chairman).

Under date of February 9, 1931, Dr. Willits, as chairman of the committee, transmitted a report to the President in which the committee's recommendations were set forth in a summary and three parts: Part I, containing recommendations with respect to the methods of measuring employment and unemployment; Part II, proposals concerning the subject of technological unemployment; and Part III, budgetary and other administrative recommendations. The complete text of the report of the Advisory Committee on Employment Statistics will appear later as a Bureau of Labor Statistics bulletin. The summary of the committee's recommendations is here reproduced in full.

Summary of Recommendations

THE committee, as indicated in the subsequent pages of the report, has made the following recommendations:

1. Improvement of the indexes of employment.

(*a*) Manufacturing industries. The direct utilization of the present results obtained by the Federal Reserve Board's Division of Research and Statistics for making certain necessary tests and adjustments of indexes; the tabulation of employment data for some leading cities and for some entire States.

(*b*) Nonmanufacturing industries. The addition of employment indexes for building and other construction activities; shipping and stevedoring, garages and automobile service stations, and for certain of the more important groups in the "white collar" class, such as

investment bankers and brokers; commercial banks and trust companies; mortgage and title companies; advertising agencies; restaurants, etc.

(*c*) The census of manufactures as a source of employment statistics with the collection of data undertaken on an annual basis, the inclusion of data on the average number of wage earners employed, by size groups; also monthly employment statistics of wage earners according to (1) States, (2) leading industries, (3) leading States; statistics of manufactures by counties, by industries; hours of labor in manufacturing industries; statistics of automobile repair shops, etc.

2. The measurement of part-time employment through data on man-hours, with first efforts to be confined to manufacturing industries and railroad transportation, separating wage earners from salaried employees; collection of data on normal work-week hours; consideration of desirability of extending work on man-hour data for periodic adjustment of figures; explicit questions on schedule to secure the needed data.

3. The Bureau of Labor Statistics and statistical division of the Interstate Commerce Commission might confer with a view to hastening the monthly publication on the employment and wages paid to Class I railroad employees, so that they may be included monthly with the present series of the Bureau of Labor Statistics.

4. For the more satisfactory and reliable measurement of unemployment in the future—

(*a*) The prompt extension of employment statistics in the direction and in the manner indicated above.

(*b*) The continuance of the decennial census of unemployment.

(*c*) Serious consideration of the desirability of a quinquennial census of employment.

(*d*) The immediate preparation by the Bureau of the Census of census monographs on—

(1) Occupational changes.
(2) Unemployment.
(3) Age changes of American workers.
(4) Man-hours.
(5) Changes in employment revealed by the census of manufactures.
(6) The relation between value of output, value added by manufacture, and wages.
(7) The distribution of employees by size of establishment.
(8) Employment in distributive trades.

5. In regard to technological unemployment, the collection of fundamental data and the prosecution of specific studies should be a continuing part of the responsibility of the Federal Government, and especially of the United States Bureau of Labor Statistics.

(*a*) Basic data. The collection of such further basic data by appropriate agencies as are necessary for the continuous and current measurement of industrial productivity.

(*b*) Special studies. Where warranted by basic facts collected, special intensive surveys of particular industries are to be made for the purpose of determining the exact processes or machinery responsible for the increased productivity and the type of labor affected by it.

6. Two hundred thousand dollars additional be made available in budget of next fiscal year to the United States Bureau of Labor Statistics for carrying out the above recommendations.

7. Fifty thousand dollars of the above to be made available at once.

8. More effective coordination of the various statistical services of the Government to be undertaken, by the appointment of a permanent coordinating committee composed of the heads of the various statistical services with power to institute investigations and make recommendations to some central authority.

9. An extension of the policy of cooperation with responsible outside agencies to be encouraged both in collection and analysis.

Loans as an Unemployment Relief Measure

A REPORT by the President's Emergency Committee for Employment, issued in mimeographed form February 22, 1931, outlines the system of loans inaugurated by several companies as a measure for the prevention of distress among workers facing protracted lay-offs.

A number of important industrial concerns in different parts of the country are making cash loans to their workers who are in need of funds because of unemployment, which are to be repaid from wages when business improves. These loans are being made in some cases in the belief that a higher level of employment will be reached in the near future and because of the desire on the part of the companies to keep their working forces as nearly as possible intact and ready to start work as soon as the expected orders begin to accumulate. The loans, therefore, being based on the expected expansion of operations which will afford the borrower full wages, are made on a business-like basis, with or without interest, to be repaid in installments deducted from future wages.

The great majority of workers who are normally regularly employed prefer to borrow funds in such an emergency as the present, rather than to ask for charitable assistance. The effect of this ability to secure a loan which can be repaid after returning to work is to give the worker a feeling of self-reliance, while at the same time it prevents serious hardship. The loans are usually made by company representatives who are in a better position than outside persons to know the needs of the worker.

As yet there is only limited experience available as to the extent of losses on such loans, but it seems evident from the reports coming to the President's emergency comittee, it is stated, that "loans to employees temporarily off the pay roll or on reduced pay are coming to be considered a sound feature of emergency industrial relations procedure."

The five typical loan plans described in the report are those of the General Electric Co., International Harvester Co., Southern Pacific Railway, General Tire & Rubber Co., and the Matthews Construction Co., of Princeton, N. J.

The loan plan of the General Electric Co. was adopted in the Schenectady plant in 1926, and was incorporated in the general unemployment pension plan presented to all the plants of the company for adoption in the summer of 1930. From the unemployment fund loans not to exceed $200 may be made to employees who have contributed

for at least six months to the fund, and repayment of such loans begins as soon as the contributing employee is given full-time work by the company. The plan provided that no payments should be made from the fund for at least six months, and thereafter only to employees who have made their normal payments for six months, but owing to the unemployment emergency it was put in operation in December, 1930.

The International Harvester Co. adopted a plan October 30, 1930, which was to be effective immediately, whereby employees temporarily laid off or on part time equivalent to less than 36 hours per week may receive loans to defray current living expenses, but which may not be used for the payment of old debts nor purchases made on the installment plan. There is a works loan committee and a visiting committee in the different plants, the latter of which reports on the necessity for loans after visits to the homes of unemployed workers. Loans are made by check weekly, the employee signing an agreement to repay the loan after reemployment by the company. The plan also provides for emergency medical assistance through the company's medical department. No interest is charged on loans made under this plan.

A temporary relief fund was established on the Southern Pacific system in December, 1930. This is a joint plan, the sources of the fund being voluntary pay-roll deductions of 1 per cent a month for six months of the earnings of officers and employees, who feel financially able, supplemented by an equal amount contributed by the company. Pay-roll deductions did not begin until the last half of January, 1931, but the company advanced a sum of money to each division in December for immediate loans. Five company officers of each line have charge of the general administration of the fund. The original subscribers will receive their pro rata share at least once a year after repayments have been begun.

The General Tire & Rubber Co. recently declared an extra dividend, half of which was set aside to form a fund to be used to stabilize the industry, chiefly through the stimulation of sales, and to provide assistance to employees in times of unemployment in the form of loans. No loans have been granted as yet, as the plant has been running full time.

The plan of the Matthews Construction Co. is that of a small organization which has on occasions previous to this general depression made loans to the workers. No interest is charged the men and no time limit set on the pay-roll deductions for repayment.

The United States Steel Corporation is another organization which has extended credit to some of its employees in the present depression, and the report states that it is probable that numerous other companies have made similar advances against future pay rolls.

Report of Connecticut State Emergency Committee on Employment

UNDER date of February 19, 1931, the Connecticut State Emergency Committee on Employment made a report to Gov. Wilbur L. Cross. The report describes the procedure and achievements of the committee and outlines plans, the adoption of which the committee hopes would aid in meeting unemployment problems arising from seasonal variations and cyclical depressions in business.

Procedure of the Committee

THE committee organized its work on the assumption that its duty lay in (1) cooperating with all agencies in the State and Nation organized for the purpose of investigating and mitigating effects of unemployment; and (2) encouraging employers to gather information and statistics on unemployment and to analyze the data collected in the hope of finding a practical solution of the unemployment problem.

Since the populous communities in Connecticut already had relief committees at work, it was not believed necessary for the State committee to outline commonly known methods of relief. Instead, the committee set about to develop a register showing which communities had unemployment committees and to disseminate information as to what unusual things the various relief organizations were doing so that one community might benefit by the experience of another. The collection of such information is being continued currently, and as it is arranged and classified the results will be made known.

Local relief committees were found to have much in common as regards method of organization. The State committee therefore found it effective to appoint a group of subcommittees to deal with major problems, such as registration of the unemployed, classification of the registrants as to needs, job procurement—both public and private—collection and distribution of clothing, charitable relief, and publicity. These subcommittees in turn cooperate in attacking local problems as conditions require, always making use of the relief suggestions already referred to.

The State committee has not restricted itself to working with relief committees only, but has also used its influence to discourage all unsound plans for municipal undertakings and public improvements. In the report of the committee satisfaction is expressed that a growing tendency exists on the part of municipalities to insist on a return for funds paid out, thus avoiding the practice of paying wages for idleness.

Recommendations of the Committee

RECOMMENDATIONS offered by the committee are designed to meet present conditions and to build up machinery that may be of service in meeting and diminishing the severity of future crises. Among the recommendations stressed in the report of the committee are proposals to increase public works, to stabilize employment in industrial establishments, and to build up exact information on employment and related matters.

In the field of promoting public works the committee has taken active steps, with the result that a $100,000 appropriation for clearing up State parks and forests was made.

The committee has also used its influence with employers to bring about stabilized employment. Employers have been urged to inform their employees that hours of labor for a certain definite period ahead will be maintained, to recognize actual determined losses as quickly as possible and take immediate steps to liquidate them, to make necessary improvements in plants and equipment, and to distribute the work among as many workers as possible.

For future control of unemployment the committee has made recommendations in detail. Stress is laid upon the need for permanent

planning boards, which it is believed should be established by communities. Long-range planning is likewise recommended as a function of employers so that production may be more evenly divided over the several months of the year. In making this suggestion the committee does not advocate that employers build up stocks on speculation, but that they study the market, learn what requirements will be, and offer inducements to their distributing organizations to contract for goods needed far in advance of the time the goods will be needed.

Stress is laid upon a proposal looking toward collection of information and statistics on employment. Such information, if available at the end of the present depression and covering this period when conditions are at their worst, would make it possible to study the causes and remedies of depression. The committee regards the collection of accurate information on matters relating to unemployment as properly within the province of employers' work and believes that a large group of employers in the State should agree among themselves to supply to a central office, for analysis, certain data for one full week in each month. The information needed is classified under four headings:

1. Trend of employment of identical industries over a continuing period of time dating back to October, 1929.
2. Trend of pay rolls of the same employers over a continuing period of time dating back to October, 1929.
3. Trend of total actual hours of employment of the same employers over a continuing period of time dating back to October, 1929.
4. A record in all industries that will show the precise effect the present depression has had, and is having, upon the hours of labor of each of its employees.

The committee's report states that analysis of the information reported under headings 1, 2, and 3 would give a picture of the outward and general view of unemployment and wage problems in the State. The information suggested under heading 4, the committee believes, will give the individual employer and others with whom he is willing to share the information an intimate view of his unemployment problem. The plan of collection advanced by the committee for learning the precise effect the present depression has had upon the hours of labor of employees (heading 4) provides for collecting and recording the following information:

A. List those employed in each department of the business at the peak of operations of the plant taken as a whole in 1929, showing age of each and period each has been on pay roll. Continue this record monthly for each department until it goes on short hours, and resume the record when full-time operations are begun again. (This information is important, because it shows what the stable forces of the business are and indicates what forces the management is most desirous of keeping.)

B. When shortening of hours in any department took place in 1929 or 1930, obtain a list of the employees whose hours were shortened, with age and dependents of each, and thereafter compile a weekly record of the hours each worked and the wages he received so long as he remained on the pay roll, adding new names as new persons are employed. (It is important that this information be taken from the regular pay-roll record and put on a special form so that the composite effect of the depression on the business, department, and individual may be seen at a glance.)

In closing, the committee urges that employers hasten to develop a system of recording and carry their inquiry back to cover at least a year. It is stated that the committee is cognizant of the work such an inquiry would entail, but believes that recurring unemployment should be made the subject of special research.

Rochester Unemployment Benefit Plan

A JOINT unemployment insurance plan providing a permanent fund for the payment of benefits to their employees in time of unemployment was put into effect recently by 14 plants in Rochester, N. Y.

The companies uniting in the adoption of the plan are Eastman Kodak Co., Bausch & Lomb Optical Co., Stromberg Carlson Co., Rochester Telephone Corporation, the Gleason Works, Taylor Instrument Co., Consolidated Machine Tool Corporation, the Todd Co., the Pfaudler Co., Vogt Manufacturing Co., Yawman & Erbe Manufacturing Co., Sargent & Greenleaf (Inc.), Davenport Machine Tool Co., and Cochrane Bly Co. Of these companies, which are under separate management and control, one is a public utility and the others are manufacturing companies, their principal products being photographic goods, optical goods and instruments, telephones and radios, thermometers and other recording instruments, machinery, check protectors and signers, gear cutting machines, auto trimmings, machinery, office furniture, filing systems, and locks. These companies normally employ about 26,000 workers, and vary in size from approximately 45 to 13,000 employees.

Stabilization methods which have eliminated periodic unemployment to a large extent had been adopted by these firms prior to the present depression. Some of the methods employed were accurate forecasting of sales, careful planning, scheduling of production at an even rate during the year, and building up of inventories during slack seasons. During the present depression the companies have done as much repair and maintenance work as possible in order to keep the workers employed; some have engaged in extensive building operations, and special efforts have been made to stimulate sales. When it has become necessary to reduce output in the different companies the managements have, as far as possible, reduced the working hours in order to reduce the number of lay-offs. It is stated in the agreement drawn up by the firms that after careful study of the situation it appears that the most sensible and practical additional method for reducing unemployment and lessening its effects lies in creating substantial reserves to be drawn upon for benefits during future periods of unemployment. It is their belief, also, that such reserves should be built up and maintained by the industries themselves rather than under governmental insurance.

Each company will, therefore, make an appropriation annually to an unemployment reserve fund up to 2 per cent of the pay roll, depending upon the degree of stabilization effected by that company. The fund will reach its maximum in five years and any payments made from the fund after the maximum is reached will be replaced by appropriations at the regular annual rate. No benefit payments will be made until after January 1, 1933. In case of a prolonged period of unemployment, when it appears that the fund will be unequal to meeting the demands, the management may declare that an emergency exists and all officials and employees of the company who are not receiving unemployment benefits will be assessed 1 per cent of their earnings. These payments will continue until the management declares that the emergency is over.

Unemployment benefits will amount to 60 per cent of the average weekly earnings during the last three months of normal employment, up to a maximum of $22.50 per week. The maximum period during which unemployment benefits will be paid ranges from 6 weeks for one year's service to 13 weeks for service of five years and over. Unemployment benefits will be payable to eligible employees after two weeks of unemployment. There is, also, the usual provision in plans of this kind that payment of the benefit will cease if an employee refuses to accept any suitable employment which may be offered to him.

Unemployment in Foreign Countries

THE accompanying table shows detailed monthly statistics of unemployment in foreign countries, as reproduced from official sources, from May, 1929, to the latest available date:

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES [1]

Date (end of month)	Australia		Austria	Belgium				Canada	
	Trade-unionists unemployed		Compulsory insurance, number unemployed in receipt of benefit	Unemployment insurance societies				Trade-unionists unemployed	
	Number	Per cent		Wholly unemployed		Partially unemployed		Number	Per cent
				Number	Per cent	Number	Per cent		
1929									
May	[2]	-------	130,469	2,382	0.4	8,686	1.4	7,750	4.0
June	40,996	10.0	110,266	2,559	.4	11,194	1.8	5,723	2.9
July	[2]	-------	104,399	4,037	.6	16,452	2.6	6,003	3.0
August	[2]	-------	101,845	3,200	.5	15,614	2.5	7,159	3.5
September	52,480	12.1	104,947	3,492	.5	16,714	2.6	7,654	3.7
October	[2]	-------	125,850	3,261	.5	13,930	2.2	12,716	6.0
November	[2]	-------	167,487	6,895	1.1	13,176	2.1	19,832	9.3
December	56,801	13.1	226,567	15,761	2.4	29,309	4.6	24,289	11.4
1930									
January	[2]	-------	273,197	22,542	3.5	25,782	4.0	22,795	10.8
February	[2]	-------	284,543	16,085	2.6	31,222	4.9	24,175	11.5
March	63,144	14.6	239,094	14,030	2.2	28,469	4.5	22,912	10.8
April	[2]	-------	192,477	13,715	2.2	36,605	5.8	18,581	9.0
May	[2]	-------	162,678	12,119	1.9	38,761	6.1	20,424	10.3
June	80,595	18.5	150,075	12,226	1.9	41,336	6.5	21,380	10.6
July	[2]	-------	153,188	15,302	2.4	48,580	7.7	18,473	9.2
August	[2]	-------	156,145	17,747	2.8	51,649	8.2	[3] 18,232	9.3
September	90,379	20.5	163,894	23,693	3.8	61,623	9.9	[3] 19,356	9.4
October	[2]	-------	192,778	27,322	4.3	54,804	8.5	[3] 22,403	10.8
November	[2]	-------	237,745	38,973	6.1	76,043	12.0	[3] 28,408	13.8
December	102,900	23.4	294,845	63,585	9.3	117,167	17.0	[3] 37,339	17.0
1931									
January	[2]	-------	331,239	[2]	----------	[2]	----------	[2]	----------

[1] Sources: League of Nations—Monthly Bulletin of Statistics; International Labor Office—International Labor Review; Canada—Labor Gazette; Great Britain—Ministry of Labor Gazette; Austria—Statistische Nachrichten; Australia—Quarterly Summary of Australian Statistics; Germany—Reichsarbeitsblatt, Reichs Arbeitsmarkt Anzeiger; Switzerland—Wirt. u. Social. Mitteilungen, La Vie Economique; Poland—Wiedomosci Statystlyczne; Norway—Statistiske Meddelelser; Netherlands—Maandschrift; Sweden—Sociala Meddelanden; Denmark—Statistiske Efterretninger; Finland—Bank of Finland Monthly Bulletin; France—Bulletin du Marché du Travail; Hungary—Magyar Statisztikai Szemle; Belgium—Revue du Travail; New Zealand—Monthly Abstract of Statistics; U. S. Department of Commerce—Commerce Reports; and U. S. Consular Reports.

[2] Not reported.

[3] Figures computed in the Bureau of Labor Statistics from official report covering membership of unions reporting and per cent of unemployment.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Czechoslovakia		Danzig (Free City of)	Denmark		Estonia	Finland	France	Germany
	Trade-union insurance funds—unemployed in receipt of benefit		Number of unemployed registered	Trade-union unemployment funds—unemployed		Number unemployed remaining on live register	Number of unemployed registered	Number of unemployed in receipt of benefit	Number of unemployed registered
	Number	Per cent		Number	Per cent				
1929									
May	21,866	1.9	11,135	29,671	10.8	2,169	1,624	570	1,349,833
June	19,436	1.9	8,876	27,398	10.0	1,110	1,157	394	1,260,044
July	16,859	1.6	9,007	26,621	9.6	780	1,188	399	1,251,452
August	18,674	1.8	8,958	25,164	9.1	609	1,859	403	1,271,990
September	19,468	1.9	9,296	24,175	8.7	902	2,710	385	1,323,603
October	16,248	1.5	10,664	28,194	10.1	3,065	4,997	396	1,557,146
November	17,108	1.6	13,146	36,302	13.0	5,288	9,495	577	2,035,667
December	30,170	2.8	16,198	62,563	22.4	6,116	8,716	817	2,850,849
1930									
January	39,199	3.6	19,282	55,876	20.3	5,608	12,696	1,484	3,217,608
February	40,550	3.6	21,153	59,363	21.0	4,580	11,545	1,683	3,365,811
March	45,567	4.0	20,376	47,109	15.6	3,575	10,062	1,630	3,040,797
April	42,664	3.7	18,371	33,471	11.8	2,227	7,274	1,203	2,786,912
May	41,098	3.8	16,232	27,966	9.4	2,065	4,666	859	2,634,718
June	37,853	3.4	14,975	24,807	8.7	910	3,553	1,019	2,640,681
July	46,800	4.1	15,330	26,200	9.3	762	4,026	856	2,765,258
August	52,694	4.7	15,687	26,232	9.0	1,039	5,288	964	2,883,000
September	57,542	5.3	16,073	27,700	9.0	1,414	7,157	988	3,004,000
October	61,213	5.5	17,307	32,880	11.4	3,282	10,279	1,663	3,252,000
November	65,904	5.9	20,272	44,200	15.3	5,675	10,740	4,893	3,683,000
December	[1]	-------	24,429	71,100	24.6	6,163	9,336	11,952	4,384,000
1931									
January	[1]	-------	27,081	70,961	24.4	[1]	[1]	28,536	4,887,000
February	[1]	-------	[1]	[1]	----------	[1]	[1]	40,766	4,972,000

Date (end of month)	Germany					Great Britain and Northern Ireland			
	Trade-unionists					Compulsory insurance			
	Wholly unemployed		Partially unemployed		Number unemployed in receipt of benefit	Wholly unemployed		Temporary stoppages	
	Number	Per cent	Number	Per cent		Number	Per cent	Number	Per cent
1929									
May	419,373	9.1	315,191	6.8	1,010,781	900,562	7.6	276,922	2.3
June	393,749	8.5	308,699	6.7	929,579	884,549	7.4	279,108	2.4
July	395,202	8.6	315,739	6.9	863,594	881,189	7.4	296,318	2.5
August	410,481	8.9	322,824	7.0	883,002	918,550	7.7	280,332	2.4
September	442,312	9.6	315,150	6.8	910,245	937,795	7.9	265,627	2.2
October	498,604	10.9	319,489	7.0	1,061,134	992,769	8.2	261,711	2.2
November	634,790	13.7	351,947	7.6	1,387,079	1,061,618	8.8	263,987	2.2
December	922,681	20.1	389,278	8.5	1,984,811	1,071,849	8.9	272,371	2.2
1930									
January	1,004,787	22.0	501,950	11.0	2,482,648	1,183,974	9.8	336,474	2.8
February	1,076,441	23.5	593,380	13.0	2,655,723	1,211,262	10.0	371,840	3.1
March	995,972	21.7	576,153	12.6	2,347,102	1,284,231	10.6	409,785	3.4
April	926,831	20.3	553,098	12.1	2,081,068	1,309,014	10.8	451,506	3.8
May	895,542	19.5	552,318	12.0	1,889,240	1,339,595	11.1	516,303	4.2
June	896,465	19.6	578,116	12.6	1,834,662	1,341,818	11.1	569,931	4.7
July	930,777	20.5	631,903	13.9	1,900,961	1,405,981	11.6	664,107	5.5
August	984,384	21.7	670,466	14.8	1,947,811	1,500,990	12.4	618,658	5.1
September	1,011,820	22.5	677,627	15.1	1,965,348	1,579,708	13.1	608,692	5.0
October	1,061,570	23.6	693,379	15.4	2,071,730	1,725,731	13.9	593,223	4.8
November	1,167,930	26.0	721,658	16.1	2,353,980	1,836,280	14.8	532,518	4.3
December	[1]	31.7	[1]	16.9	2,832,738	1,853,575	14.9	646,205	5.3
1931									
January	[1]	------	[1]	---------	3,364,770	2,044,209	16.5	618,633	5.0

[1] Not reported.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Great Britain	Hungary			Irish Free State		Italy		Latvia
	Number of persons registered with employment exchanges	Trade-unionists unemployed			Compulsory insurance—unemployed		Number of unemployed registered		Number unemployed remaining on live register
		Christian (Budapest)	Social-Democratic		Number	Per cent	Wholly unemployed	Partially unemployed	
			Number	Per cent					
1929									
May	1,123,216	787	13,266	8.8	24,256	8.6	227,682	8,713	1,433
June	1,117,807	787	13,921	9.5	(1)		193,325	10,970	1,236
July	1,154,129	801	13,964	9.3	(1)		201,868	13,503	1,205
August	1,155,803	833	14,007	9.5	21,834	7.8	216,666	19,650	1,008
September	1,181,862	783	13,922	9.5	(1)		228,831	16,835	1,582
October	1,234,388	967	14,215	9.7	(1)		297,382	17,793	4,204
November	1,285,458	1,033	15,910	10.3	26,186	9.2	332,833	19,694	8,479
December	1,510,231	1,107	19,181	13.0	(1)		408,748	21,349	8,134
1930									
January	1,491,519	1,161	21,533	14.5	31,592	11.1	466,231	23,185	9,263
February	1,539,265	1,120	21,309	14.8	(1)		456,628	26,674	8,825
March	1,677,473	983	21,016	14.6	(1)		385,432	28,026	6,494
April	1,698,386	906	20,139	13.7	26,027	9.2	372,236	24,305	3,683
May	1,770,051	875	19,875	13.6	(1)		367,183	22,825	1,421
June	1,890,575	829	18,960	13.0	(1)		322,291	21,887	779
July	2,011,467	920	19,081	13.2	23,393	8.2	342,061	24,209	607
August	2,039,702	847	21,013	14.5	(1)		375,548	24,056	573
September	2,114,955	874	22,252	16.0	(1)		394,630	22,734	1,470
October	2,200,413	999	22,914	16.7	20,775	(1)	446,496	19,081	6,058
November	2,274,338	975	23,333	17.0	(1)		534,356	22,125	8,608
December	2,392,738	935	24,648		(1)		642,169	21,788	10,076
1931									
January	2,613,749	953	26,191		26,167	(1)	722,612	27,924	(1)

Date (end of month)	Netherlands		New Zealand		Norway			Poland
	Unemployment insurance societies—unemployed		Trade-unionists unemployed		Trade-unionists (10 unions) unemployed		Number unemployed remaining on live register	Number unemployed registered with employment offices
	Number	Per cent	Number	Per cent	Number	Per cent		
1929								
May	10,820	3.0	5,276	9.3	4,694	12.5	18,000	119,877
June	9,987	2.6	(1)		4,337	11.3	14,547	105,065
July	12,030	3.1	(1)		3,999	10.2	12,417	97,297
August	12,701	3.3	5,226	9.4	4,245	10.7	12,493	90,094
September	12,517	3.2	(1)		4,854	12.1	15,525	81,848
October	13,639	3.5	(1)		5,682	14.0	18,420	91,035
November	20,941	5.3	3,018	5.6	6,256	15.4	20,546	125,066
December	48,609	12.3	(1)		7,693	18.9	22,092	185,314
1930								
January	56,535	13.9	(1)		7,786	19.0	22,549	241,974
February	50,957	12.5	4,348	8.5	7,851	18.9	22,974	274,708
March	34,996	8.6	(1)		7,503	17.8	22,533	289,469
April	28,421	6.9	(1)		6,701	15.8	19,829	271,225
May	26,211	6.3	5,884	10.9	5,239	12.2	16,376	224,914
June	23,678	5.5	(1)		4,700	10.8	13,939	204,982
July	29,075	6.7	(1)		4,723	10.8	11,997	193,687
August	32,755	7.6	7,197	13.5	5,897	13.4	12,923	173,627
September	35,532	8.2	(1)		7,010	15.7	17,053	170,467
October	41,088	9.6	(1)		8,031	18.0	20,363	165,154
November	[2] 46,807	11.8	8,119	15.5	9,396	21.4	24,544	209,912
December	[2] 72,191	16.5	(1)		(1)		27,157	299,797
1931								
January	[2] 103,728	23.4	(1)		(1)		28,596	(1)

[1] Not reported.

[2] Provisional figure.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Poland				Rumania	Saar Territory	Sweden	
	Industrial workers							
	Extractive and manufacturing industries—wholly unemployed		Manufacturing industries—partially unemployed		Number unemployed remaining on live register	Number unemployed registered	Trade-unionists unemployed	
	Number	Per cent	Number	Per cent			Number	Per cent
1929								
May	104,200	11.6	135,608	25.1	6,819	(1)	24,452	8.1
June	91,000	10.2	98,708	18.6	5,849	3,762	21,764	7.4
July	84,300	9.7	89,639	17.7	3,909	3,238	20,048	6.5
August	77,500	9.0	82,297	15.7	3,714	3,398	19,914	6.3
September	68,700	8.0	70,055	13.2	5,171	3,990	22,271	7.2
October	76,818	8.9	84,060	15.3	5,481	5,025	27,529	8.6
November	108,200	12.5	94,890	17.5	6,958	6,408	33,581	10.4
December	166,240	19.5	94,601	18.5	6,866	10,515	53,977	16.6
1930								
January	219,333	24.3	108,812	24.8	12,622	11,307	45,636	14.2
February	251,627	27.5	120,058	28.4	15,588	11,949	45,460	13.2
March	265,135	28.7	120,844	28.9	13,045	8,882	42,278	12.5
April	246,670	27.0	113,594	26.9	13,412	7,522	38,347	11.1
May	201,116	23.0	104,469	24.2	25,096	7,362	28,112	8.3
June	182,600	21.6	94,375	22.2	22,960	6,330	28,956	8.1
July	170,665	20.5	70,597	17.0	23,236	7,095	27,179	7.8
August	150,650	18.3	74,289	17.1	24,209	7,099	28,539	8.1
September	146,642	17.8	74,285	16.5	39,110	7,527	34,963	9.8
October	141,422	17.5	91,854	14.8	36,147	9,013	45,501	12.5
November	(1)		106,835	23.6	42,689	12,110	56,573	15.5
December	(1)		95,637	23.1	(1)	15,245	[2]82,655	23.0
1931								
January	(1)		(1)		(1)	18,921	(1)	

Date (end of month)	Switzerland				Yugoslavia
	Unemployment funds				
	Wholly unemployed		Partially unemployed		Number of unemployed registered
	Number	Per cent	Number	Per cent	
1929					
May	(1)	(1)	(1)	(1)	10,583
June	(1)	0.7	(1)	1.0	9,017
July	(1)	(1)	(1)	(1)	7,652
August	(1)	(1)	(1)	(1)	5,790
September	(1)	.8	(1)	.9	6,755
October	(1)	(1)	(1)	(1)	4,739
November	(1)	(1)	(1)	(1)	5,026
December	12,309	4.2	9,805	3.3	5,663
1930					
January	10,523	4.4	10,710	4.4	8,508
February	9,971	4.1	11,445	4.7	9,437
March	7,882	2.6	12,642	4.2	9,739
April	5,203	2.1	12,755	5.3	12,052
May	5,356	2.2	13,129	5.4	8,704
June	5,368	1.7	17,688	5.7	6,991
July	4,751	1.9	15,112	6.2	7,236
August	5,703	2.3	19,441	7.9	6,111
September	7,792	2.5	26,111	8.3	5,973
October	7,399	3.0	23,309	9.4	6,609
November	11,666	4.7	25,793	10.5	7,219
December	21,400	6.6	33,483	10.4	9,989

[1] Not reported.

Appointment of Federal Commission to Study Unemployment in Germany

THE Federal Government has recently appointed a commission to study numerous proposed projects to combat unemployment in Germany, under the chairmanship of Herr Heinrich Brauns, former Federal Minister of Labor.[1] The other members of the commission are former high officials connected with labor affairs, economists, and statisticians, without special representatives from employers and their workers. It is not expected that the commission will solve the unemployment problem in its entirety, but it is hoped that it may be able to work out helpful projects in certain economic fields.

Work of British Unemployment Grants Committee

IN 1920 the British Government passed legislation authorizing grants in aid of schemes of local works undertaken with a view to affording employment, and this policy was maintained with varying degrees of enthusiasm until the coming into office of the Labor Party in 1929, when a new bill was passed increasing the amounts which might be advanced and liberalizing the terms upon which they would be given. The committee which had been administering the earlier law was retained in office and has recently issued a report covering the period from June 10, 1929, to August 30, 1930.[2] The old bill was in effect from June 10 to August 30, 1929, but that period is covered in the present report in order to make the statistics of the work continuous.

Conditions for Receiving Grants

GRANTS may be made in aid of works of public utility and of works calculated to promote economic development in the United Kingdom, provided the committee is satisfied that such works would not be carried out in the near future without such aid. In other words, it is not the purpose to help authorities in works which they would normally do without assistance. Labor for assisted works must be secured through the employment exchanges, and normally 75 per cent of the men employed must be ex-service men. Only British materials may be used on such works, unless a special exception is made by the committee; this stipulation is taken so seriously that only once in the course of the year has the committee agreed to the use of foreign materials, in a case where to enforce the provision would have necessitated suspension of work for several months while the material was being prepared.

Kind and Amount of Aid Given

MOST of the assistance given is for schemes financed by loans. In the case of nonrevenue-producing schemes, the grant is 75 per cent of the interest and amortization charges for the first half of the loan period up to 15 years, and 37½ per cent for the second half, again up to 15 years. For a revenue-producing scheme, the normal grant is

[1] Magazin der Wirtschaft, Berlin, Feb. 6, 1931, p. 302.
[2] Great Britain. Ministry of Labor. Unemployment Grants Committee. Report to Aug. 30, 1930. London, 1930. (Cmd. 3744.)

50 per cent of the interest for 15 years or for the period of the loan, whichever is the shorter. Special grants of greater value may be made in the case of large and important revenue-producing schemes and for such desirable works as rural water supply, baths, and the like.

When schemes are financed otherwise than by loans, in areas where the average monthly rate of unemployment among adult males exceeded 15 per cent during the preceding year, the grant is 90 per cent of the wages of the men taken on for the work, while in other areas it is 75 per cent of the wages.

From December, 1920, up to August 30, 1930, approval had been given to schemes financed by loan, involving a capital cost of £137,589,000 ($669,576,869), and of this amount £40,799,000 ($198,548,334), or 29.7 per cent, had been approved under the new act. The treasury liability on the total amount was £2,900,000 ($14,112,850) for the year 1930–31; for the next five years its annual liability is estimated at £4,070,000 ($19,806,655); for the succeeding 5-year period at £3,070,000 ($14,940,155), and for the next, at £1,500,000 ($7,299,750). The estimated capital cost of approved schemes financed otherwise than by loan during the whole period is £18,013,000 ($87,660,265), of which £971,000 ($4,725,372) had been approved under the new act. The treasury liability on the whole amount after March 31, 1930, is estimated at £400,000 ($1,946,600).

During the period December, 1920, to March, 1930, the treasury had paid out on schemes financed by loans £13,428,058 ($65,347,644), and on schemes otherwise financed £4,323,809 ($21,041,817), making a total of £17,751,867 ($86,389,461).

Kind and Cost of Schemes Approved for Aid

THE following table shows the kinds of schemes approved for grants, and the estimated cost of each kind passed during the period June 11, 1929, to August 30, 1930:

ESTIMATED COST OF SCHEMES APPROVED FOR GRANTS

[Conversions into United States money on basis of pound=$4.8665]

Class of work	Estimated total cost		Per cent of total
	English currency	United States currency	
Electricity supply, standardization, etc	£12,226,000	$59,497,829	28.15
Sewers and sewage disposal	8,145,000	39,637,642	18.75
Roads and footpaths	5,562,000	27,067,473	12.81
Water supply	5,340,000	25,987,110	12.29
Dock and harbor improvements and equipment	4,568,000	22,230,172	10.51
Parks, recreation grounds, tennis courts, etc	1,585,000	7,713,403	3.65
Civic buildings and public institutions	1,305,000	6,350,783	3.00
Sea defense	1,210,000	5,888,465	2.78
Gas supply	788,000	3,834,802	1.83
Land reclamation and drainage	765,000	3,722,873	1.76
River improvements	651,000	3,168,092	1.49
Land development	556,000	2,705,774	1.28
Baths and washhouses	441,000	2,146,127	1.02
Conveniences	82,000	399,053	.19
Tramway construction	43,000	209,260	.10
Cemeteries	42,000	204,393	.10
Sanitation	10,000	48,665	.02
Miscellaneous	116,000	564,514	.27
Total	43,435,000	211,376,428	100.00

Of this amount, approximately £23,435,000 ($114,046,428) is for revenue-producing schemes. By far the largest single undertaking is an electrical enterprise, the "northeast coast frequency scheme," estimated to cost £10,000,000 ($48,665,000).

Employment Provided

As TO employment provided, the report states:

Authorities are required when submitting a scheme to state approximately the period during which it will be in operation and to give an estimate of the average number of men to be employed directly during that period. In many cases this information is far from reliable, but it is not, in the committee's experience, unreasonable to assume that, taking all schemes together, the average duration is 12 months and that 40 per cent of the capital cost is spent on labor employed on the site. It may therefore be said that in respect of every million pounds worth of work approved (taking an average monthly wage payment of £10 [$48.67]) about 40,000 man-months of employment are provided. At the beginning of the period covered by this report the total number of men employed on approved schemes was 8,618. In December, 1929, the number had risen to 15,771; in April, 1930, to 31,318; and at the end of August, 1930, to 40,931.

Changes in Numbers Employed in Great Britain, 1923 to 1930

THE British Ministry of Labor Gazette contains in its issue for February, 1931, an article dealing with changes in the number of insured persons employed in different trades and industries during the period 1923 to 1930. Changes in legislative and administrative conditions for the receipt of benefit have affected the number recorded as insured and have therefore rendered the figures of later years not comparable with those of the earlier part of the period. To meet this difficulty a new series of figures has been prepared, obtained by deducting the number of insured persons recorded as unemployed from the total estimated number of persons insured, which gives for each of 100 industry groups a measure of the change in the number of insured persons in employment.

Apart from the fact that the new series eliminates the effect of legislative and administrative changes on the numbers within the scheme of unemployment insurance, it has the added advantage of providing a more direct measure of the volume of employment in each industry. The importance of this is seen in industries such as shipbuilding and ship repairing, which have experienced severe depression for several years and in which the numbers of insured workers have shown a heavy decline. In some such industries the numbers unemployed classified as belonging to the industries have decreased since 1923 to a greater extent than the numbers insured, and the employment index is therefore now higher in relation to the level of June, 1923, than the insured index. On the other hand, there are industries, such as coal mining, in which the decline in numbers insured has lagged behind the decline in employment, and the employment index, therefore, is now lower than the index of all insured workers.

This point is illustrated by a comparison of the two index figures for the period of eight years, which gives the following results:

INDEX NUMBERS OF PERSONS INSURED AND OF INSURED PERSONS IN EMPLOYMENT IN JUNE OF EACH YEAR, 1923 TO 1930

Year	Persons insured	Insured persons employed	Year	Persons insured	Insured persons employed
1923	100.0	100.0	1927	105.6	108.6
1924	101.6	103.8	1928	106.5	107.2
1925	103.5	102.9	1929	108.4	110.5
1926	104.8	90.2	1930	111.2	106.1

Up to 1927, inclusive, the figures as to persons insured included all aged 16 and over, but from the beginning of 1928, all over 64 years of age were excluded from the list. Estimates, however, of the total numbers aged 16 to 64, inclusive, in 1926, have been used to provide a basis for linking up, on a comparable basis, the index numbers for 1923–1927, with those for later years. As, however, figures are not available showing the number of persons aged 65 or over who retired from each industry on obtaining old-age pensions in 1927, it should not be assumed that the index numbers given necessarily represent the changes in the total number of workers, insured and uninsured, attached to any industry.

In the above table the figures for 1926 are affected by the conditions arising from the dispute in the coal-mining industry. Otherwise, they reflect the normal course of industry.

It will be observed from the table that for 1924, 1927, 1928, and 1929—years of comparatively good employment—the index numbers for insured persons in employment are higher than those representing the total estimated numbers insured, thus showing that the industrial improvement from the position at June, 1923, had absorbed some part of the numbers unemployed as well as the natural increase in the insured population. On the other hand, the depression in the coal-mining industry in June, 1925, and the general trade depression in 1930 have produced index numbers for persons in employment which are lower than the corresponding figures for the total estimated numbers insured. At June, 1929, there was an increase in the estimated number of insured workers in employment of 10.5 per cent over June, 1923. The index figure for that year is the highest in the table. At June, 1930, it had fallen to 106.1, but this was well above the figure for any year prior to 1927. At December, 1930, however, it had fallen to 100.2.

The following table shows, for separate industrial groups, the number in employment in 1923 and 1930, and the index number for June, 1930; the number employed in June, 1923, with the modifications mentioned above, being taken as 100:

ESTIMATED NUMBER OF INSURED PERSONS IN EMPLOYMENT IN GREAT BRITAIN AND NORTHERN IRELAND IN JUNE, 1923 AND 1930

Industry group	Insured persons employed		Index numbers, June, 1930 (June, 1923=100)
	June, 1923 (aged 16 and over)	June, 1930 (aged 16 to 64)	
Industries showing increases			
Silk and artificial silk	34,888	60,855	179.4
Electrical wiring and contracting	9,924	16,612	173.3
Artificial stone and concrete	9,039	14,508	167.0
Heating and ventilating apparatus	5,265	8,415	166.1
Tramway and omnibus service	105,087	157,487	153.8
Scientific and photographic instruments and apparatus	16,590	24,618	152.7
Electrical engineering	56,965	83,208	148.8
Public works contracting, etc	103,277	145,250	146.7
Electrical cables, wire, and lamps	64,989	94,304	146.6
Paint, varnish, red and white leads	12,978	18,014	143.7
Distributive trades	1,180,548	1,622,112	140.0
Brick, tile, etc. (making)	56,240	74,554	139.9
Clay, sand, gravel, and chalk pits	11,875	15,749	138.4
Hotel, boarding house, club services	233,437	311,257	136.0
Road transport, not otherwise classified	122,821	161,858	135.3
Furniture making, upholstering, etc	87,349	112,602	134.2
Stationery and typewriting requisites (not paper)	4,487	5,876	134.0
Laundries, dyeing and dry cleaning	101,309	131,892	132.7
Local government	227,563	279,107	132.2
Wall-paper making	4,428	5,673	132.0
Stone quarrying and mining	30,574	38,433	131.3

ESTIMATED NUMBER OF INSURED PERSONS IN EMPLOYMENT IN GREAT BRITAIN AND NORTHERN IRELAND IN JUNE, 1923 AND 1930—Continued

Industry group	Insured persons employed		Index numbers, June, 1930 (June, 1923=100)
	June, 1923 (aged 16 and over)	June, 1930 (aged 16 to 64)	
Industries showing increases—Continued			
Entertainments and sports	51,729	65,535	129.1
Industries and services, not otherwise classified	79,268	99,075	126.8
Motor vehicles, cycles, and aircraft	173,541	214,696	125.2
Shirts, collars, underclothing, etc	61,707	76,343	124.4
Toys, games, and sports requisites	10,619	12,731	123.0
Brushes and brooms	7,897	9,414	122.6
Printing, publishing, and bookbinding	215,010	256,368	122.2
Musical instruments	18,443	21,709	121.9
Building	626,440	726,268	121.8
Food industries, not otherwise classified	86,330	101,658	120.7
Professional services	104,206	122,070	119.3
Metal industries, not otherwise classified	146,840	170,361	118.6
Rubber	50,887	58,557	118.1
Cement, lime kilns, and whiting	14,946	16,886	117.7
Constructional engineering	20,414	23,386	117.5
Iron and steel tubes	20,910	23,833	116.8
Fishing	22,376	25,171	116.3
Glass bottles	12,447	13,853	115.5
Stove, grate, pipe, etc., and general iron founding	70,045	76,411	114.9
Oilcloth, linoleum, etc	11,429	12,320	111.8
Hosiery	83,732	91,055	110.5
Drink industries	93,203	99,496	109.3
Explosives	16,310	17,133	108.6
Shipping service	106,481	113,192	108.0
Tailoring	175,947	186,962	107.9
Tobacco, cigars, cigarettes, and snuff	41,407	43,991	107.8
Glass (except bottles and scientific glass)	23,070	24,290	107.2
Slate quarrying and mining	7,781	7,969	106.8
Cardboard boxes, paper bags, and stationery	50,976	53,603	105.9
Textile industries not given separately	37,022	38,163	104.9
Sawmilling and machined woodwork	50,763	50,453	104.5
Railway carriages, wagons, and street cars	48,476	48,770	104.3
Commerce, banking, insurance, and finance	216,765	224,790	104.2
Hand tools, cutlery, saws, files	25,132	25,464	104.0
Hats and caps	31,802	32,391	103.6
Wood boxes and packing cases	10,610	10,597	103.4
Paper and paper board	51,692	50,985	102.7
Chemicals	91,959	91,423	102.5
Cocoa, chocolate, and sugar confectionery	63,532	63,988	102.0
Grain milling	27,388	26,095	101.4
Oil, glue, soap, ink, matches, etc	70,932	68,774	101.3
Marine engineering, etc	51,489	50,951	101.1
Gas, water, and electricity supply industries	160,027	154,198	101.1
Brass, copper, zinc, tin, lead, etc	35,006	33,743	100.5
Total	5,856,619	7,117,505	124.9
Industries showing decreases			
General engineering: Engineers' iron and steel founding	525,737	499,399	98.7
Tanning, currying, and dressing	36,477	35,707	98.7
Lead, tin, and copper mining	3,950	3,730	98.4
Shipbuilding and ship repairing	150,964	141,947	97.5
Bread, biscuit, cake, etc	143,233	137,327	97.5
Brass and allied metal wares	25,790	23,740	94.8
Pottery, earthenware, etc	64,325	57,952	93.5
Carpets	24,484	22,373	92.9
Lace	16,301	14,101	90.9
Bolts, nuts, screws, rivets, nails etc	24,641	21,734	90.2
Boots, shoes, slippers, and clogs	129,070	112,870	89.9
Dress industries not given separately	29,116	25,470	89.3
Dressmaking and millinery	110,493	97,540	89.0
Watches, clocks, plate, jewelry, etc	42,943	37,179	88.9
Hemp, rope, cord, twine, etc	16,870	14,578	88.8
Woodworking not otherwise classified	23,652	20,269	88.6
Wire, wire netting, wire ropes	21,962	18,441	88.3
Linen	68,772	58,433	87.3
Leather goods	25,686	21,756	86.5
Iron ore and iron stone mining, etc	15,906	12,821	84.2
Dock, harbor, river, and canal service	141,095	111,215	83.7
Textile bleaching, printing, dyeing, etc	102,378	81,152	83.2
Tin plates	28,786	22,726	82.8

ESTIMATED NUMBER OF INSURED PERSONS IN EMPLOYMENT IN GREAT BRITAIN AND NORTHERN IRELAND IN JUNE, 1923 AND 1930—Continued

Industry group	Insured persons employed		Index numbers, June, 1930 (June, 1923=100)
	June, 1923 (aged 16 and over)	June, 1930 (aged 16 to 64)	
Industries showing decreases—Continued			
Steel melting and iron puddling, iron and steel rolling and forging	166,840	126,846	78.8
Woolen and worsted	250,755	181,605	75.3
Cotton	445,422	329,853	75.1
Railway service (nonpermanent workers)	178,730	129,190	74.5
Jute	36,249	25,872	74.2
Transport, communication, and storage, not otherwise classified	20,639	14,545	73.5
Pig iron (blast furnaces)	26,112	17,755	72.6
Carriages, carts, etc	24,299	17,032	72.3
Coke ovens and by-product works	13,982	9,588	71.6
Coal mining	1,211,559	813,711	69.2
National Government	159,964	103,148	67.2
Mining and quarrying not otherwise classified	24,300	14,841	63.6
Total	4,331,482	3,376,446	80.4
Grand total, all industry groups	10,188,101	10,493,951	106.1

Although the index numbers show that for industry as a whole there was a decrease in the numbers employed between June, 1929, and June, 1930, quite a number of groups showed an increase during this year. Among important groups of this class are the tramway and omnibus service, public works contracting, the distributive trades, printing, publishing, and bookbinding, professional services, and local government services. This latter increase, it is explained, is largely due to the inauguration of works for the relief of unemployment. The relatively heaviest decreases for the year ending June 30, 1930, occurred in the cotton textile industry, textile bleaching, dyeing and finishing, the manufacture of jute, silk and artificial silk (though, for the whole period 1923 to 1930, silk and artificial silk show a marked increase), musical instruments, hosiery, linen, and hand tools.

In the coal-mining industry there has been heavy unemployment during the past six years, and a considerable reduction in the numbers of insured workers classified as belonging to the industry. Nevertheless the index numbers based on insured persons in employment are for nearly every year lower than those based on the total estimated numbers insured. It is clear that the transfer of workers from this industry to other industries has not kept pace with the decline in employment available in coal mining.

INDUSTRIAL AND LABOR CONDITIONS

Labor Recommendations in Governors' Messages, 1931

THE legislatures of the following 43 States met early in 1931 and received the messages of their respective governors: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. A digest of some of the principal statements and recommendations of special interest to labor in these messages is here presented.[1]

Agriculture

AGRICULTURAL problems, which are closely correlated with labor problems, were discussed at length by various governors. Many of their statements disclose serious conditions in rural districts. For example, the outgoing Governor of Alabama reported that the agriculture of that State suffered substantially in 1930 from the drought and the extremely low prices of cotton and that the value of farm products in that year was $50,000,000 less than in 1929, while the Governor of Arizona declared that the pink boll worm has won the fight against it, despite the immense expenditure of State and Federal money to eradicate the pest. The budget of the California Department of Agriculture, according to the governor of that State, has risen in a few years from slightly over $1,000,000 to more than $4,000,000, and the California farmers are earning less for their investment and labor than ever before in agricultural history.

> California, like all other States, has undoubtedly suffered from the most serious change witnessed by agriculture in the last 10 years, when, so far as foodstuffs are concerned, we have ceased to be primarily an exporting Nation. Instead, we are now importing an enormous tonnage of soil products in excess of our total exports of raw and manufactured agricultural commodities.

In Nebraska the unusually low prices of corn, wheat, livestock, poultry, eggs, and other farm products have cut the farmer's income more than one-half. He has, therefore, been compelled to discontinue building or repairs, and has had to curtail his patronage of other lines of business. The solvency of business houses and manufacturing establishments is menaced. The Governor of Nevada comments on the severe results of the world-wide depression on our farming and

[1] Data are from United States Daily, Supplement, Washington, Feb. 16, 1931.

livestock industries. The Governor of South Carolina views "with alarm the distressing condition of agriculture as manifested by numerous foreclosures and the exodus of thousands of good, honest people from the farms into centers seeking other vocations, and the poverty and desolation in agricultural life generally." Attention is called by the Governor of Tennessee to the farmers' struggle for existence in that State, and the Governor of West Virginia announces that agriculture in his jurisdiction is "in the most critical period of its history as the result of the most severe drought ever recorded in the State."

The wide effect of this drought is shown by the decrease in farm income in West Virginia of approximately $30,000,000. No such blow has ever been experienced by the farmers of this State, and even with the most favorable conditions it will take years for West Virginia agriculture to heal its wounds.

The drought has not only cut the purchasing power of our farmers in half, but foundation stocks of all forms of livestock have been greatly depreciated, due to forced sales of such stock either to get needed cash or on account of lack of water to carry the stock through the drought period.

Among the recommendations for the improvement of agricultural conditions were the following made by the governors of the States indicated:

Arizona.—Revision of the statutes governing cooperative marketing, wherever recommended by the agricultural interests of the State, consistent with fairness to the public.

California.—The greatest possible use of the machinery within the department of agriculture, so that growers and farmers may be protected against disorderly selling by adequate market information. Upon the success of the State's agriculture depends the welfare of its labor and the prosperity of nearly all of its industry. "The farm problem must be solved and solved promptly."

Iowa.—The backing of Congressmen in every effort to stabilize farm products on a fair price level and to provide an impartial tax and assessment system reducing farm taxes.

Michigan.—A realization by the rural dweller that the farm is his home, the relief of the farmer from some of his tax burden, and production for the home market.

Nebraska.—Tariff reduction, the enactment of the McNary-Haugen Bill or the debenture plan to prevent depressing home markets with surplus farm products, and the memorializing of the President and the United States Congress by the State legislature for passage of the Muscle Shoals bill before adjournment of Congress.

New Hampshire.[2]—The expansion of the bureau of markets and the establishment of small craft industries for the people in the winter.

New Jersey.—The efficient coordination of supply and demand.

New York.—Long-range planning for the use of the land.

Ohio.—"Farm life must remain agreeable and profitable even if it be at the expense of the entire body politic."

Oklahoma.—The abolition of the State market commission as being too expensive for the service performed.

Oregon.[2]—Continued legislative backing in the field of cooperative marketing. Consolidation of all the agricultural functions of the State in a department of agriculture.

[2] Outgoing governor.

South Carolina.—A marketing system which will insure the farmers ready and dependable prices for their products and an efficient distribution of such products.

West Virginia.—A continued and expanded educational and regulatory program on farms in that State, in view of the losses on them in the past season and of the movement of inexperienced persons back to the farms. The greatest possible encouragement of agriculture along all lines, with liberal assistance by various government agencies.

Wisconsin.—Impressing upon the leaders of our many interests the imperativeness of "reconsidering the whole question of the proportion of goods and services which agriculture should obtain as a fundamental right."

Economic Situation

THE country-wide unemployment is reflected in most of the messages, certain governors reporting, however, that their particular States were not so deeply involved in the depression as many other States. Included in the list of States said to be less adversely situated were Arizona, Maine, Maryland, Montana, Nevada, New Hampshire, North Dakota, Texas, Utah, West Virginia and Wyoming. The financial condition of Utah was declared, on the whole, sound and reassuring, West Virginia was noted as having made exceptional progress in numerous lines in the present biennium, and Wyoming as having gone forward steadily in the development of its various resources.

Some of the measures taken to cope with unemployment in various States and the recommendations made in this connection by the governors of such States are given below:

Arizona.—The immediate amendment of the Highway Code was recommended in order to restore the State highway department's full privilege to do work on force account. Necessary new construction of highways and improvements and enlargements of State buildings should be begun as soon as possible and appropriations made therefor.

California.—Emphasis was placed on the importance of "a spirit of confidence and quick response to courageous leadership" for bringing about economic recovery. The governor also announced his intention to aid every prudent, progressive step to enable labor to receive a fair share of the benefits resulting from machinery, improved methods of distribution, and increase of national wealth.

Connecticut.—The creation of an emergency committee on relief, with wide powers and an adequate appropriation was recommended.

Illinois.—In 1930 the State paid out approximately $26,000,000 of its revenue in road and building construction, the records showing that about 30,000 men were employed directly or indirectly at the time of the construction season on these projects. Resumption of work on the Illinois waterway was expected and a governor's commission on unemployment and relief was appointed. As a result of the cooperation of this commission with various existing agencies and organizations, the employment situation in Illinois is constantly improving.

Iowa.—An extension of the existing State-Federal free employment service was advocated.

Maine.—The transfer of a contingent fund to the appropriation of the State Department of Labor made it possible to carry on an employment service for four months from the middle of November, 1930.

Maryland.—Surveys of unemployment in Baltimore were made in 1928, 1929, and 1930, respectively. At the time the governor prepared his message the State road commission was undertaking approximately $2,000,000 worth of work which under ordinary circumstances would have been postponed until spring, thus employing about 800 men who would otherwise be jobless.

The governor indorsed the following principal agencies of relief as economically sound: (1) Speeding up needed public construction and public works, (2) stimulating industry to accelerate needed construction and work, (3) staggering employment, and (4) setting up employment bureaus and agencies. He promised to appoint as promptly as possible a State commission on unemployment.

Massachusetts.—The authorization of $20,000,000 in Commonwealth bonds was recommended for the construction of needed public works; also, an appropriation of $300,000 for improving the State forests, etc., to furnish immediate work for the unemployed, and one of $1,000,000 as an emergency unemployment relief fund. Furthermore, it was recommended that the governor be authorized to appoint an unpaid commission to make a complete survey of the unemployment problem and means for its relief and avoidance, and that such commission give special attention to the possibility of adopting some kind of unemployment insurance.

Michigan.[2]—During the few months preceding the opening of the legislature the inspectors of the State department of labor and industry assisted in forming local relief and employment organizations. The State increased its building program and provided for winter construction work—even highway construction when possible under winter conditions. Convicts were taken off road work so that jobless men might be employed. Moreover, the State insisted that those having contracts with it should not cut wages or otherwise take advantage of the workers.

Minnesota.—The governor declared himself in favor of appropriations for public repairs, improvements, and building construction, and for the enlarging of the road-paving program. He also advocated the passing of legislation providing the payment of the highest prevailing scale of wages for work carried on directly by the State or under contract with the State:

> The law should provide for working hours per day and working-days per month similar to the accepted standards prevailing at the time the work is performed in public work carried on by the Federal Government.
>
> Preference should be given to residents of Minnesota in employment for public work. Whenever practical, and whenever the cost is substantially the same, work should be performed by hand rather than by machines in order to provide for the employment of a greater number of persons.

Nevada.—In the opinion of the governor, the people of this State have assurance that they can face the future with optimism, in view of the proposed expenditures in connection with the Boulder Canyon project in Clark County, the expenditures made at the naval ammunition depot in Mineral County, and the additional highway construction in the State authorized by the United States Congress.

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[2] Outgoing governor.

New Hampshire.—In the opinion of the governor "We can do more to restore normal conditions by undramatic and unselfish effort combined with hard work and a quiet faith than through legislative panaceas." An effort has been made to establish local committees in the communities affected in the State. "Decentralization is essential in handling this problem, but the first step toward this is cooperation among all agencies in local communities, with centralized planning and a single confidential master list of all applicants for help placed in the proper hands."

New Jersey.—Thirty-eight representative citizens of the State were appointed to grapple with the unemployment problem. Among the activities of this body or its subcommittees are a thorough survey of employment offices, a study of municipal relief, and the promotion of the adoption of local relief measures.

New York.—Public works are being speeded to the utmost, according to the governor, and all available funds are being expended to provide employment. The governor's commission on stabilization of industry has done much to prevent lay-offs and find new jobs for the unemployed. He requested that this body be made an official State commission to function for 1931, and that it be given sufficient funds to carry on emergency activities.

Ohio.—The State plan for the stabilization of industry was reported by the outgoing governor as having proved so effective that it has been recommended by the United States Department of Commerce as a guide for other States. The incoming governor recommended an immediate reasonable appropriation, limited to 1931, for emergency relief.

Pennsylvania.—The governor reviewed the activities of the general State unemployment committee and the various county unemployment committees and referred to the fact that $140,000,000, or 40 per cent, of the budget has already been recommended for work available for the relief of unemployment. He called attention to the recommendations of the State unemployment committee, some of which have already been acted upon, for the payment of the going wage rate on State construction projects, the employment of residents of the State on such projects, long-range planning of public works, the improvement of public employment agencies, the regulation of private employment agencies, and the better training for high-school and vocational students to equip them for necessary shifts to different occupations.

The governor also joined in the recommendation of the State unemployment committee that consideration be given to voluntary unemployment insurance and also to compulsory State unemployment insurance. In view of the attention at present being paid to this matter by many employers, it seemed to him "that we may reasonably await the result of their effort before accepting as necessary any type of compulsory State insurance."

Rhode Island.—Authorization to appoint a committee of three residents of the State was requested by the governor, such committee to cooperate and consult with other agencies within the State which are at present engaged in improving conditions, especially with organizations coping with the unemployment problem.

South Carolina.—Two general State unemployment relief committees, one constituted of white and one of colored citizens, have been set up. Through these committees and the county unemployment and relief committees organization work is to be carried into the various communities of the State. The outgoing governor suggested that consideration be given to making these organizations permanent. The incoming governor recommended the reduction of taxes by cutting down public expenditures.

Utah.—A larger appropriation for the State industrial commission was favored by the governor in order that this body may exercise its authorized functions of establishing and carrying on free employment agencies, licensing and supervising private employment agencies, and collecting and publishing employment statistics. The State was said to have acquitted itself well in the advance planning of public works and was, therefore, able to furnish employment this winter on building construction and road projects. The governor also pointed out that employers in Utah "are making strenuous efforts to keep their men at work. Some are maintaining their forces intact at the sacrifice of all profits, if not actually at a loss. Others are keeping as many as possible of their workers on the pay rolls on part time."

Probably, as this sense of social responsibility grows, and as employers see more clearly that inability to work because industries fail to provide regular employment creates a social as well as an industrial problem, they will become ready to cooperate in some plan of unemployment insurance * * *.

Washington.—In the judgment of the governor, "a beneficial prosperity can not be manufactured at will." He declares that "Property confiscation is facing us," and that "the using of tax moneys to bolster up the profligate behavior of the past in the business world, and to build political fences for politicians, is little short of criminal, and leads to greater distress in the future."

Wisconsin.—The present essentials for freedom and opportunity are "credit, mechanical power, substantial equality of bargaining power, education, and a government through which social problems beyond the control of the individual can and will be met and mastered," the governor stated.

To-day we can not mark time when new forms of credit control, new forms of power development and distribution, and new forms of corporate organization are almost daily bringing economic dislocation. * * *

Wisconsin and this particular legislature must consider * * * methods of increasing the purchasing power of the producers on the farm and in the factory, to enable them to buy back the things which they produce.

A sound financial policy requires the establishment of reserves in time of prosperity for meeting capital charges in times of depression. Sound labor policy requires reserves to maintain the living standards and buying power of the worker. These should be utilized in periods of depression to be applied in productive employment that adds to our permanent wealth. But first, however, we must deal with the immediate emergency on the basis of this principle.

Hours of Labor

THE governors of the States specified made the following recommendations concerning hours of labor, woman and child welfare, workmen's compensation, injunctions, the regulation of private employment offices, the employment of aliens on public works, and convict labor:

New York.—A genuine 8-hour day and a 48-hour week for women in industry.

Establishment in the State labor department of a special means for the enforcement of the provisions of the labor law relating to the 8-hour workday on public works.

North Carolina.—A reduction of the 60-hour week to 55 hours, with sufficient penalties for the violation of this law.

South Carolina.—The enforced adoption by mills or textile plants of some fixed uniform hour for starting in the morning, and for recess or stopping work for dinner, for the convenience of housewives and for the improvement of general health conditions.

Texas.—Amendment of the 8-hour law to make it applicable to all labor on public works.

Wyoming.—The amendment and reenactment of section 4308, Compiled Statutes, 1920, in order to have an 8-hour law "with teeth."

Woman and Child Welfare

Alabama.[2]—Increase in the staff of the State child welfare department and in the counties, public financial aid for dependent children in their own homes, and more adequate facilities for the care of Negro children.

Iowa.[2]—The rewriting of the child labor law, as the Supreme Court has practically annulled the provision concerning theatrical appearances.

Nebraska.—Every consideration that law and administration can offer should be given to the health and welfare of children and the care of mothers in the State.

Nevada.—Legislation to prohibit employment of children under 16 years of age, with the labor commissioner as the enforcing officer.

New Hampshire.—An immediate emergency appropriation under the act for the assistance of dependent mothers.

New York.—Setting up for women and children an advisory minimum or fair wage board.

North Carolina.—The raising of the educational requirement for the employment of children 14 to 16 years of age from the completion of the fourth grade to the completion of the sixth grade.

The prohibition of night work in industry for girls under 18.

South Carolina.—The prohibition of night work for minors under 18 years of age. The prohibition of the employment of minors under 16 years of age in cotton mills or textile plants.

Texas.—A minimum wage law for women and children. Improvement in the State's method of handling abandoned, dependent, and underprivileged children.

Workmen's Compensation

Alabama.[2]—Provision for a shorter waiting period, higher compensation rates, an increase in medical and hospital benefits, and the creation of a workmen's compensation commission.

Arizona.—Compensation for occupational diseases plainly arising from or aggravated by employment, and the selection of his own

[2] Outgoing governor.

doctor by the person claiming compensation, provided such doctor be regularly licensed and reasonably accessible to the claimant.

Iowa.[2]—Active interest on the part of both employers and employees in the trend of legislative amendments and rulings affecting compensation costs and benefits, in order to bring about a measure of stability in such legislation.

Kansas.—The penalizing of an employer or insurer who withholds payment of weekly benefits in cases where there is no reasonable basis for controversy, and no restriction of the employer's right to resist payment in cases where there is actual ground for dispute.

Maine.—The consideration of legislation looking to the control of construction, installation, operation, and importation of steam boilers, in view of the large number of industrial accidents.

Maryland.—A reexamination of the compensation law in order that desirable changes may be made upon the recommendations of a commission already appointed to report on this subject.

Michigan.—The inclusion of occupational diseases, carefully limited and catalogued, in the class of compensable injuries.

Nevada.—A complete and thorough investigation of the State industrial commission; more substantial compensation to injured workmen and their families, based on the number of dependents, and the granting of the right of appeal to both employers and employees from decisions of the members of the commission.

New Mexico.—More equitable provisions for employees.

New York.—Inclusion of all diseases arising from occupational tasks, and the raising of the compensation limit for all classes of disabilities to $25 a week.

Ohio.—The restoration and maintenance of a proper reserve to meet losses as they occur in the public employees' fund and to insure equitable compensation to public employees. Also the reconstruction of section 1465–82 of the General Code, in order to secure for the dependents of persons killed in their employment equal benefits under the law. Provision for the use of nonexplosive X-ray films and for authorization of the State industrial commission to destroy nitrocellulose now in the commission files after the proper medical interpretation of such files has been made.[2] Some amendment for overcoming the inability under the present compensation act of pooling for the benefit of public employees in general, county contributions to the State insurance fund.[3]

South Carolina.—The enactment of a just compensation law.

Texas.—Workmen's compensation insurance to protect employees on highways, especially in view of the fact that because of constitutional limitations the legislature is prohibited from providing for the dependents of employees who are injured on public work.

Injunctions

Minnesota.—Enactment of a law to insure to every person charged with contempt of court arising out of labor controversies the full constitutional right of trial by jury, and to provide that no injunction shall be issued in a labor dispute until and unless a full and adequate hearing is first granted those sought to be enjoined.

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[2] Outgoing governor. [3] Incoming governor.

An amendment to the State antitrust law "so as to exclude labor unions from the scope of its operation."

Wisconsin.—The revision of the State's legislation of 1917 against the abuse of injunctions in labor disputes, in the light of the recent investigation undertaken by the United States Senate Judiciary Committee and of Wisconsin's own experience.

Regulation of Private Employment Offices

Iowa.[2]—The rewriting of the fee-limitation section of the existing employment agency law to provide a substantially higher limitation. If exceptions are to be made, their number should be greatly reduced.

Kansas.—Legislation curbing and regulating private employment agencies.

Michigan.—The supervision of private employment agencies to be again vested in the State department of labor and industry.

New York.—Strict State regulation of fee-charging employment agencies.

Employment of Aliens on Public Works

Arizona.—A petition by the State legislature to the United States Congress to enact promptly legislation for the application of the quota act to the foreign countries of the North and South American continents.

Salutary penalties under the law for State, county, or municipal officials knowingly permitting the employment of aliens on public works, and with impeachment in office automatically following conviction.

Convict Labor

THE subject of convict labor was referred to by various governors in the section of their messages dealing with prison reform, probation, and parole. The going into effect of the so-called Hawes-Cooper Act in 1934, which will make it impractical to ship prison-made goods from State to State, will constitute a pressing problem, in the judgment of a number of these officials. The Governor of Indiana declared that "the question of employment for the unfortunates in our penal institutions has become increasingly difficult to answer. Idle men under prison conditions are potentially dangerous * * *. It is too often true that dependents of the inmate suffer because his income as a worker within the walls has been curtailed." Discussing the same legislative act, the Governor of Iowa reported that unless provision is made for employment of prisoners now engaged in contract work, the State will be confronted by a serious condition of idleness in prison institutions.

The Governor of Maryland visualized a further intensification of the problem of prison employment. State-use shops in the penitentiaries will, however, he reported, be continued and extended. Maryland officials are participating prominently in an organization formed by 14 Eastern States to aid in the solution of prisoner employment. In Missouri, only 1,200 prisoners are engaged in remunerative labor, according to the governor of that State, who thinks that the Hawes-Cooper law makes the prospect more ominous. He added, however,

[2] Outgoing governor.

that the State-use system is in no way an experiment and has been followed with success in a number of States. It was suggested by the outgoing Governor of New Hampshire that in 1934 radical changes may be necessary in the employment of prison labor and the disposal of prison-made products, while the Governor of Vermont recommended that a study be made by proper officials in view of the grave situation which will result from the prohibition of interstate commerce in prison-made goods. The Governor of Wyoming referred to the following three proposals for the employing of men now occupied in the shirt factory of the penitentiary: (1) The establishment of one or more State farms where sugar beets or cultivated crops can be grown; (2) the use of groups of men to operate stone crushers at points on the highway system; and (3) to formulate an agreement with the Western States for the exchange of prison-made goods for State use.

Other Labor Recommendations

Iowa.[2]—Authority for the State bureau of labor to abolish the common towel and common drinking cup in favor of sanitary devices.

Kansas.—The repeal of the court of industrial relations act.

The improvement and strengthening of the State department of labor and the making of surveys to inform capital concerning opportunities in the State; the promotion of an educational safety program by the department of labor; the separation of the department of labor from the workmen's compensation commission or making the commissioner of labor chairman of the workmen's compensation commission; and an endeavor to establish the department of labor on a self-sustaining basis through fees for services, especially through the factory and mine inspection services.

Nevada.—Legislation for the better protection of labor against being defrauded of wages by irresponsible employers and leasing companies having no property that can be attached to secure the payment of such wages.

New Mexico.—A law creating the office of labor commissioner and the granting to such official reasonable and proper authority to enforce legislation concerning labor and employment conditions.

Extension of mining regulations to include metal mining.

New York.—Declaration in a statute that human labor is not a commodity or an article of commerce.

Establishment in the State labor department of special means for the enforcement of the provisions of the labor law relating to the prevailing rate of wages and preference to citizens of New York State on public works.

Wyoming.—Amendment of the State highway statute so as to empower the board, commission, or person in charge of any public work under contract to pay, with consent of both the surety company and the contractor, any just claims attaching to that work.

Old-Age Pensions

GOVERNORS of the following States recommended the enactment of old-age pension laws: Arizona, Connecticut, Delaware, Idaho, Michigan, Nebraska, Ohio, Oregon, and Pennsylvania. Since these

[2] Outgoing governor.

recommendations were made, old-age pension laws have been enacted in both Delaware and Idaho. Such laws had already been enacted in Alaska and 12 States (California, Colorado, Kentucky, Maryland, Massachusetts, Minnesota, Montana, Nevada, New York, Utah, Wisconsin, and Wyoming). An old-age security measure has been introduced in the 1931 session of the Kansas Legislature and it is reported that a pension bill is being prepared for presentation to the Missouri State Legislature.

The Governor of Minnesota favored making the old-age pension law of that State compulsory, while the Governor of Massachusetts favored an amendment to the old-age assistance law of that Commonwealth, reducing the age limit, etc. The Governor of New Jersey expressed the hope that his State will face the problem of the needy aged in a constructive way, and, in the judgment of the Governor of New York, the next legislative measure in connection with old-age security in that State should be based on the insurance theory with a system of contributions beginning at an early age. The Governor of Wyoming advocated an amendment to the old-age pension provisions of that State, authorizing county commissioners to make special levies to provide the necessary funds.

Public Health

THE governors of 21 States discussed public health problems ranging from stream pollution to the prevention of mental disorders. Among the measures recommended or suggested showing newer trends were: The suggestion of the Governor of California [2] that public health activities should be extended to provide for the application of preventive methods for all the people in the State, such methods in the past being applied chiefly to children and young adults; that of the Governor of Iowa [2] for a director of public health nursing, and the announcement by the Governor of New York of the early presentation of a report by a special committee appointed by him to study a new health program for the State.

Public Utilities

AMONG the governors favoring legislation for the regulation of public utilities were those of Connecticut, Idaho, Iowa, Kansas, Massachusetts, Minnesota, Missouri, New Hampshire, New York, Oregon, Pennsylvania, and Texas.

The matter of public ownership was discussed in a few messages, the Governor of Idaho declaring that the advisability of cities, and villages, owning and operating their own utilities, for example, power plants and water sytems, is unquestionable. The Governor of Iowa held that municipal ownership of public utilities should not be discouraged, and the Governor of Nebraska recommended legislation permitting the ownership and development of the water power of the State by governmental units in districts of such size as to make it of public benefit. The Governor of New York trusts "that action will be taken at this session providing for water-power development by a public agency for the purpose of producing cheaper electricity for the

[2] Outgoing governor.

people of the State." The Governor of Oregon recommended for favorable consideration supplementary legislation to the "People's water and power districts constitutional amendment" authorizing the creation of utility districts for the public development of power. The Governor of Wisconsin urged a constitutional amendment authorizing the State to provide, if it so desires, a state-wide publicly owned power system.

Readjustment of Workers Displaced by Plant Shutdowns

A CONTRIBUTION to the rather limited amount of information regarding what becomes of workers who are laid off because of plant shutdowns has been made by the institute of human relations at Yale University in a study of the readjustment of workers displaced when the United States Rubber Co. permanently shut down its plants at Hartford and New Haven, Conn.[1] The study is said not to have been made with any intention of looking into the causes of unemployment. It deals, rather, with what is currently described as technological unemployment, the lay-offs having resulted from the introduction of more highly mechanized methods, entailing a change in location of plants. The net result was that workers were laid off suddenly and had little prospect of being reemployed in the same industry.

The plants from which workers were laid off were both shut down in the year 1929, the shutdown of the rubber-footwear manufacturing plant in New Haven occurring in the spring and that of the automobile-tire factory in Hartford in the fall. These shutdowns involved the permanent lay-off of nearly 800 workers in New Haven, of whom 60 per cent were women, and 1,100 workers in Hartford, practically all men. Also, in the New Haven plant old-style production methods were in force, the work was mostly on a group basis, and workers were largely semiskilled, while in Hartford the plant was highly mechanized and the workers were highly skilled.

Of this total of approximately 1,900 industrial workers, it was possible for the Institute of Human Relations to make a survey of the work history of 1,200, excluding foremen and other junior officers, approximately a year after the lay-off. The survey is said to have been undertaken for the purpose of answering questions such as the following:

(1) What happened to the displaced workers—how long did it take them to find new jobs, what kind of jobs did they finally obtain, etc.? (2) How did they and their families meet the problem of unemployment—did nonwage-earning members of the family go out to hunt jobs, was the standard of living seriously lowered, how many had recourse to charity, etc.? (3) What similarities and differences in such results could be traced to the divergent situations in New Haven and Hartford? (4) Since the company paid some of its workers a dismissal wage, how effective was this device in facilitating the readjustment?

The materials for the study came from the records of the company, showing the work history of the laid-off workers, both the employment

[1] Quarterly Journal of Economics, Cambridge, February, 1931, pp. 309–46: "The readjustment of workers displaced by plant shutdowns," by Ewan Clague and W. J. Couper.

by this company and earlier employment; from the records of various charity organizations to which some workers had had recourse either prior to or subsequent to the shutdown; and, finally, from direct field survey of workers laid off both in Hartford and New Haven. Through the survey an effort was made to ascertain (1) the employment history of the worker and his family as far back as could be obtained, but with special emphasis on the period since the shutdown; (2) the methods used by the workers in finding work; (3) changes in family living conditions since shutdown, with reference to the number of persons in the household, housing accommodations, illness, insurance, and finance; and (4) the use made of the dismissal wage. Community aspects of the problem were brought out by following accounts in periodicals and local newspapers and through interviews with employment exchange officers and community leaders.

Duration of Unemployment

WORKERS laid off were given a month's notice of the impending shutdown in both plants, and the company directed a good deal of attention toward easing the transition of the displaced workers from one job to another. Those eligible were pensioned under the company's long-established plan. For a second group, composed of workers under 45 with 15 years of service, a dismissal wage was paid based on length of service and current weekly earnings. A few workers were transferred to other company plants. The remainder were helped in every way possible to find new work.

Upon interviewing workers a year after the lay-off, it was found that out of 534 persons from the Hartford plant only 9 had not looked for work and 83 had not been able to find work. On the other hand, of the 672 New Haven workers, 84 had not sought work and 68 were unable to find it. These differences are readily explained on the basis of sex, women having comprised the greater bulk of those in New Haven not seeking work (69 women and 15 men).

Table 1 shows the total number of workers who secured work in two months or less, by sex and age groups:

TABLE 1.—NUMBER OF WORKERS SEEKING WORK AND NUMBER FINDING PERMANENT JOB IN 2 MONTHS OR LESS, BY AGE GROUPS

Age group	Hartford		New Haven			
			Men		Women	
	Number seeking work	Number finding job in 2 months or less	Number seeking work	Number finding job in 2 months or less	Number seeking work	Number finding job in 2 months or less
15 to 19 years	9	5	23	17	77	58
20 to 24 years	45	25	18	10	75	54
25 to 29 years	80	53	26	17	72	47
30 to 34 years	90	56	28	19	33	24
35 to 39 years	108	62	23	15	35	14
40 to 44 years	88	50	32	29	30	18
45 to 49 years	50	28	30	15	17	8
50 to 54 years	26	14	19	11	10	5
55 to 59 years	13	9	15	4	1	1
60 to 64 years	8	3	6	2	1	0
65 to 69 years	3	0	1	1	0	0
Pensioners	3	0	7	0	7	2
Total	523	305	228	140	358	231

Table 1 shows that there was little difference as between sexes in the time required to find the first job. Age proved a more important factor; men over 45 actively seeking work found it in the period of 2 months in only 43 per cent of the cases, while men under 45 were 71 per cent successful. For women the percentages were 44 and 67, respectively. Greater uniformity in success in finding jobs is evident for all age groups for Hartford than for New Haven.

In general, the duration of unemployment was much the same in Hartford and New Haven, and it is stated by the makers of the survey that this fact is surprising in view of the fact that efforts made to place workers in Hartford were more aggressive and well organized than in New Haven. In both instances shutdowns were timed to meet the usual seasonal expansion in business, the spring in New Haven and autumn in Hartford. However, both shutdowns coincided with the cyclical decline in business, and it is stated that emergency programs, community goodwill, and other forms of cooperation could not in this case seriously modify the usual course of events.

The average time lost by the working force in New Haven was 4.38 months out of 11 months, or 40 per cent; and in Hartford, 4.33 months in a total of 10 months, or about 43 per cent. For New Haven the results show that despite the greater tenacity displayed by older workers, age still appears to be a handicap regardless of sex. Youth reacted quite differently in the two sexes, the two youngest of the women's groups showing a low record of 3.5 months of lost time, while the young men of this age averaged 4.8 months. In Hartford the low record for time lost was established by men of 25 to 34.

Statistics of the number of workers employed July 1, 1930, in Hartford and March 1, 1930, in New Haven show that approximately 70 per cent of the men in Hartford and New Haven and 77 per cent of the women in New Haven were found to be employed at the end of 11 months.

Financial Returns from New Jobs

Information obtained as to the number of workers who obtained new jobs paying as high wages as the old, and as to changes in wage rates and annual earnings, showed that workers experienced a decided setback as a result of the shutdowns. Only 61 men in New Haven, of a total of 191 finding work, were able to get jobs paying as well as the old ones; as to the women, only 76 out of 311 were successful in this respect, and women of practically all ages are shown to have fared worse than men in their new jobs. Hartford results were even worse, only 37, or 9 per cent, of 420 finding work, having reported new jobs paying as well as the old.

Table 2 shows the average weekly earnings of workers before and after the shutdown, by sex and age groups.

Wage rates for Hartford men, it will be seen, declined more than for New Haven men—to 70 per cent as compared with 80 per cent of the wage previous to the shutdown. However, this was due not to the poor quality of the new jobs but to the higher relative wage level existing in the Hartford factory; in other words, the decline was greater because the peak was higher. It is also of interest to note that in New Haven the average wage rate for men was 50 per cent

higher than for women in both the old jobs and the new. In New Haven young men fared better than old, men under 20 having made a real gain in wages.

TABLE 2.—AVERAGE WEEKLY EARNINGS BEFORE AND AFTER SHUTDOWN, BY SEX AND AGE GROUPS

Age groups	Hartford			New Haven					
		Average weekly earnings		Men			Women		
	Number reporting comparable wage rates	Rubber company, January to August, 1929	Best-paid job, 1929–30	Number reporting comparable wage rates	Average weekly earnings		Number reporting comparable wage rates	Average weekly earnings	
					Rubber company, 1928	Best-paid job, 1929–30		Rubber company, 1928	Best-paid job, 1929–30
15 to 19 years	7	$28.71	$22.14	22	$17.82	$19.27	72	$17.44	$15.95
20 to 24 years	33	32.80	24.24	18	27.08	24.97	69	21.34	16.05
25 to 29 years	68	35.52	25.16	21	34.64	29.40	59	22.08	15.83
30 to 34 years	81	37.72	26.99	27	34.24	27.17	29	21.26	17.33
35 to 39 years	81	38.41	26.95	18	33.92	25.97	25	23.94	13.88
40 to 44 years	62	39.35	26.90	29	33.78	27.05	23	22.32	15.70
45 to 49 years	40	38.88	28.14	23	32.86	25.47	16	20.38	13.38
50 to 54 years	19	36.55	22.87	13	33.58	24.50	8	17.31	14.19
55 to 59 years	9	32.61	23.00	9	36.78	22.89	1	10.50	14.00
60 to 64 years	3	38.17	27.00	3	29.33	24.67	0	----	----
65 to 69 years	1	34.00	25.00	0	----	----	0	----	----
Pensioners	1	49.50	15.00	4	28.50	15.63	4	21.00	14.13
Total and average	405	37.15	26.16	187	31.42	25.26	306	20.65	15.68

The final estimate of the position of workers before and after the shutdown, with regard to earnings, is based upon a comparison of the annual earnings of the individuals as reported on their 1928 income-tax cards, when they were still employed by the United States Rubber Co., and the estimated total earnings of these workers between April 1, 1929, and April 1, 1930. As the latter figures are estimates only, the writers do not lay undue stress on their value. However, for those workers included in the comparison, the total 1928 earnings slightly exceeded $500,000 and the post-shutdown earnings were $264,000.

The Dismissal Wage

OF THE 729 workers in New Haven included in this study, 97 are reported to have received a dismissal wage, the payments ranging from a minimum of $137 to a maximum of $2,088, the median payment having been about $425. The amount of the dismissal wage was equal to one week's pay for each year of service and hence its size was contingent on current earnings and length of service with the company.

No less than 90 of the 97 workers (excluding foremen) were interviewed in making the survey here reviewed. It was sought to find out whether the payments facilitated the readjustment of the workers, or were a mere form of relief which did little more than postpone disaster. It was found that persons receiving the dismissal wage proved just as aggressive in looking for work as did their fellow workers and found work as quickly as the others. Exceptions to this rule

were a few women and older workers who would have retired soon in any event.

Another point made is that the fewer than a dozen workers who used their dismissal wage to go into business for themselves failed, with few exceptions. There were only one or two cases of outstanding success. One man, for example, opened a shoe-repair shop and has succeeded by doing a high quality of work. Most workers used their money for living expenses, only 26 having any of the money on hand at the end of the year.

In order to determine something of the adequacy of the dismissal wage, Table 3 was constructed. This table shows percentage comparisons by age and sex, between 1928 earnings and (1) 1929–30 earnings and (2) 1929–30 earnings plus dismissal-wage payments. By this means it was sought to find out to what extent the dismissal-wage payments covered losses in earning power during the year following the shutdown.

TABLE 3.—PERCENTAGE COMPARISONS WITH 1928 EARNINGS OF (1) 1929–30 EARNINGS, AND (2) 1929–30 EARNINGS PLUS DISMISSAL WAGE PAYMENTS, IN NEW HAVEN, BY SEX AND AGE GROUPS

Age group	Men			Women		
	Number of workers reporting comparable data	1929–30 earnings (1928=100 per cent)	1929–30 earnings plus dismissal wage payment (1928=100 per cent)	Number of workers reporting comparable data	1929–30 earnings (1928=100 per cent)	1929–30 earnings plus dismissal wage payment (1928=100 per cent)
		Per cent	*Per cent*		*Per cent*	*Per cent*
30 to 34 years	1	16.0	54.3	1	14.5	36.5
35 to 39 years	3	48.3	83.5	2	31.5	73.3
40 to 44 years	4	73.0	113.3	4	54.9	102.4
45 to 49 years	16	42.3	79.6	8	25.8	66.1
50 to 54 years	16	29.3	68.9	4	53.0	122.4
55 to 59 years	11	32.5	94.4	1	9.5	40.7
60 to 64 years	2	76.2	136.7	0		
Total	53	40.2	83.9	20	36.3	82.0

Table 3 shows the heavy losses in earning power after the shutdown for both men and women. Adding to the 1929–30 earnings the total amount of dismissal wages received, it is found that losses are cut considerably but not wiped out. The similarity between the percentages the 1929–30 earnings, plus the dismissal wage, form of the 1928 wage for both men and women (84 and 82 per cent, respectively), indicates that the loss was not a matter of sex.

The conclusion drawn from the results shown in Table 3 is stated to be that the dismissal wage was not quite adequate to cover the lost earnings of the displaced workers. However, it is reported to have been a vital factor in facilitating the readjustment of the workers.

Economic Status of the Negro

UNDER this title a brief survey of the position of the Negro in agriculture in the South and in industry in both the South and the North has been presented by T. J. Woofter, jr., of the University

of North Carolina. The survey was made under a grant from the Julius Rosenwald Fund of Chicago and the results were issued in mimeographed form under date of June, 1930.

The Negro in Southern Agriculture

THE report gives a summary of the position of farming and farmers in the South rather than a special study of the Negro farmer. The latter, it is explained, usually suffers more severely from the undesirable features of the situation and is more heavily handicapped than his white competitor; the general picture is the same for both races, except that for the Negro the shadows are more heavily accented and the high lights less frequent.

Taking southern agriculture as a whole, then, Professor Woofter finds that since 1910 the situation has grown worse. The southern farmer tends to be a one-crop man, raising mainly cotton, or corn, or tobacco. This is due partly to a custom of such long standing that the whole system of credit and share cropping has been built up around it, partly to an insufficient acquaintance with improved methods of farming and the value of diversified crops, and partly to the difficulty of securing money for other crops. Cotton and tobacco are "cash" crops, on which the farmer depends for the money to pay for clothes, such food as he does not raise on his place, tools, fertilizer, animals, and feed for the animals. Throughout the former cotton States (which contain some 5,000,000 rural Negroes) it has not as yet been possible to discover an effective substitute for cotton as a cash crop.

In small sections such substitutes as peaches, peanuts, truck crops, and dairy farming have been found, but expansion along these lines is limited by the fact that the present demand for these products is already effectively supplied in other sections of the country, so that further expansion of the acreage would only eventuate in overproduction.

Both cotton and tobacco are subject to violent fluctuations in price, and recently the prices of both have been low. Also, the ravages of the boll weevil have made cotton a more risky crop than formerly. There has been an actual decrease both in the area of land under cultivation and in the number of farms actively maintained, accompanied by a migration of both whites and colored to the cities. The decrease in number of farms has occurred almost wholly among those ranging from 20 to 100 acres in size—farms of the size cultivated largely by Negro tenants—and the shrinkage occurred mainly between 1920 and 1925. The regions in which two cash crops are cultivated, such as the cotton and tobacco areas of North Carolina and Tennessee, were considerably more prosperous than those depending on a single money crop.

Position of the Negro

WITHIN the last two decades there has been a decided change in the position and prospects of the Negro in southern agriculture.

Up to 1910 the colored farmers had made progress not only in the number of farms which they cultivated, but also in climbing the tenant ladder from the position of dependent laborer to that of semidependent half-share tenant, and on to a position of third and fourth share tenant, independent renter of land, and farm owner. The number of owners had increased in 1910 until 219,000 Negroes

owned their land. While there were 161,600 Negro owners in the Southeast in 1910, this number decreased to 145,900 by 1925, indicating a surprising proportion who are losing heart and moving to the city.

There are, of course, numerous examples of fairly prosperous Negro farmers, but in general, whether as laborer, share tenant, renter, or owner, his position is far from satisfactory. As a laborer in the old cotton States of Georgia and South Carolina, his wages are just over $1 a day, a sum which is declared to be "totally inadequate, considering the present level of the cost of living." The croppers and tenant farmers, and even the farm owners, taken as a whole, are hardly more prosperous. Farming, in the area considered, is apt to be conducted on a credit basis. The farmer's income is derived almost wholly from certain major cash crops, marketed only during two or three months of the year. Farm expenses, however, continue throughout the year. Consequently, unless the income from the cash crops is sufficient to meet the expenses of the crop to follow, or unless the farm is capably managed, credit must be obtained. Even the comparatively prosperous farmers often find it necessary to secure their fertilizer on credit, and among the less prosperous it is not uncommon for the local merchant, or, in the case of a tenant farmer, the landlord, to advance what is necessary to "make the crop," collecting the debt, with interest, when the crop is offered for sale. Under the best of circumstances, this means a heavy addition to the cost of supplies; under the worst, it has possibilities of most serious abuse, tending to produce a condition not far from peonage. A special study of the system, made by L. C. Gray, points out a few of its other harmful features.

The existing system of credit in many places is inimical to thrift on the part of the borrower. A good many planters have felt that it is desirable to keep tenants in debt rather than to encourage them to get out of debt. This is probably less true in more recent years than formerly. Furthermore, on account of lack of acquaintance with business methods and frequent inability to read and make calculations, the tenant is more or less at the mercy of the lender from the standpoint of accounting. This difficulty, and the mistrust which it generates, together with its inevitable discouragement of thrift and energy, could be eliminated by an organization known to be engaged in making loans in the interest of helping the borrower and promoting his progress.

Unfortunately, the interest charges of this system of credit have to be deducted from incomes which can ill stand deductions of any kind and which after debts are paid leave too little for satisfactory living. In 1927 the North Carolina State Tax Commission made an investigation into the actual incomes of farmers, finding that the average cash income was $556 and the average family living from the farm was $478. These figures, however, were for white-owner-operated farms, and were considerably larger than those found for Negro farmers in several other studies.

In the study of St. Helena Island, which involved Negro-owned farms, the average income in cash plus family living was found to be $420 in 1928, and Mr. Arthur Raper's study of Greene and Macon Counties, Georgia [showed], the average total income in Greene County [to be] $399, and Macon County, $448. These incomes include not only the crops sold and the crops consumed at home, but also the value of wages received from work done away from the farm.

In view of the situation shown by such figures, it is not surprising that the agricultural Negro is becoming discouraged and migrating to the city, even at the cost of giving up whatever he may have acquired in the country.

Summary and Recommendations

THE Negro and White populations of the rural South, the report finds, are both increasing rapidly in an area which, under the present methods of agriculture in use, will not support adequately those already living there. Conditions are not easy for either race, but the Negro shares the difficulties of the white farmers and has some additional ones of his own.

> The Negro farmer is first of all a part of the general southern agricultural system and as such he relies upon the one-crop system, is enmeshed in the tenant organization, is dependent upon exorbitant credit facilities, and has, up until recently, been subject to unsatisfactory market conditions. As a one-crop man he is subject to ruinous fluctuations in the price of cotton and tobacco, and does not raise a sufficient proportion of his own food and feed. As a tenant the farmer assumes a small part of the risk of farming and gets a small part of the profits. The progress made by Negroes in climbing the tenant ladder up to 1910 has been reversed by the desertion of the farms for the city. * * * Because these sudden fluctuations in price make it hard to get ahead, large proportions of the farmers are constantly in debt, and for their production credit they pay as high as 37 per cent.
>
> Notwithstanding these adverse conditions, it is possible to find in many communities of the South energetic Negro farmers who are making a living for their families. The problem is to encourage these and extend their number so that those who have a special ability for farming may remain and prosper in agriculture.

To this end, the report advises strengthening agricultural education in the schools, extending the work of the farm demonstration agents and the Federal vocation board, special efforts on the part of all cooperative projects to include Negro farmers, experiments to discover better and more economic methods of handling production credit, efforts to strengthen the present communities of Negro landholders and to increase their size, efforts to promote more self-sustaining agriculture, and further research. Each of these recommendations is discussed at some length, and some are dealt with in special reports. One suggestion is for the increased use of Negro agents and instructors.

> In the local community the most effective agencies for improving methods of production and for giving information on cooperative movements and credit facilities are the farm and home demonstration agents. Negro agents are especially effective in reaching Negro farmers. There were in 1929, 329 Negro agents. This is not a sufficiently large number, by several hundred, to supply the many black belt counties which have a sufficient number of Negro farmers to benefit from their services. The problem here is the creation of sufficient local interest in the counties to secure the necessary local appropriations, since a part of the support comes from the county, a part from the State, and a part from the Federal Government.

Status of the Negro in Industry

IN REGARD to the Negro's industrial position, the report finds that since 1910 there has been a double movement. In the southern cities white men have been competing for the skilled work Negroes formerly did there and Negroes have moved northward, entering a wide range of urban occupations. By 1920 about one-third of the Negro population was in cities, and the 1930 census shows an even larger proportion. The indications are that the movement observed from 1910 to 1920 has continued through the latest decade, and that, on the whole, the Negroes have been retained in the jobs and plants which they entered during the World War. The shift of their opportunities as to occupations is thus summarized:

Occupations losing ground:
Agriculture.
Some skilled trades—South.
Municipal employment—South.
Waiters, barbers—both South and North.
Doormen and apartment janitors—East.
Occupations gaining ground:
Mechanical industry—both South and North (especially steel, automobiles, and transportation).
Business and employees of business houses—both South and North.
Municipal employment—North.
Domestic service in suburbs of large cities and smaller cities not hitherto penetrated by Negroes.

The factors tending to produce a worsening of the Negro's position are given as population pressure exerted by the whites in the South, Mexicans in the Southwest and Middle West, and foreign born elsewhere, political attitudes in the South, closure of many unions to Negroes, blind-alley jobs, lack of technical training, substitution of machinery for men, prejudice, the unwillingness of white workers to mix with the colored, and the inability of plants to provide separate facilities. As favorable factors are cited the good record made by colored workers so far, their gradual acquisition of skill on the job and their attainment of seniority rights, the establishment of trade and continuation schools, the possession of political rights in the North, the changing attitudes of some unions, the opening up of new industries and new occupations to which the white workers have no a priori claim, the establishment of employment services specially interested in placing Negroes, as, for instance the work of the National Urban League service, and the growth of Negro businesses and of white businesses serving Negroes. Constructive programs designed to fit the Negro more efficiently into the industrial system must take account of these factors. The following suggestions are made as to what such programs might include:

1. The application of the quota system to Mexican immigrants might protect the Negro from the special competition he meets in the Southwest and Midwest.

2. The situation as to unions should be bettered by a more effective policy on the part of the American Federation of Labor in urging the organization of Negroes by the internationals and locals and by the abatement of discriminatory practices by these bodies.

3. Trained personnel workers or counselors in vocational and educational guidance should be established in Negro high schools, and special efforts should be made to bring about such a basis of cooperation between industry and education as shall be profitable to both.

4. Industrial educational facilities, supported by public funds and aided by such agencies as the Julius Rosenwald fund and the General Education Board, should be extended.

5. Employment bureaus should be developed which will pay special attention to the needs of Negro labor. "Public employment offices, financed from public funds, can not afford to overemphasize the needs of any one group of citizens. But the efficiency of these offices in handling the Negro is often increased by the addition of a Negro secretary to meet the needs of the group."

Adoption of Union-Management Cooperation in Two Plants

AMONG the collective agreements recently received by the Bureau of Labor Statistics, two provide for cooperation between management and the union. While both agreements have practically the same object in view, their plans are quite different. In each case the parties to the agreement seem to realize that systematized cooperation between union and management will develop a better working system, speed production, and improve the relationship between employee and employer.

A summary of the plans as adopted by these two unions and their employers is given below.

Machinists—Yeomans Bros. Pump Co., Chicago

THE management of Yeomans Bros. Pump Co., feeling the increased effect of the competition of nonunion firms, had recently installed quite a number of modern machine tools and had considered the advisability of adopting some wage incentive system. Upon counsel of the representative of the machinists' union, however, this plan was dropped. At conferences between the president of the company and representatives of organized labor the latter suggested, as a possible way out of the firm's difficulties, the adoption of a program of systematized cooperation between the union and the management. This suggestion was favorably received, and Mr. O. S. Beyer submitted a plan which was accepted by the management and the union.[1]

The plan gives a set of principles to be followed if the cooperation between the union and the management is to be genuine and lasting. Such cooperation must of necessity imply a willingness of the employees through their union to accept definite responsibility for the success of the company, and a willingness of the management of the company to delegate this responsibility to the union as well as to share the resulting benefits with its employees. The principles are as follows:

1. Acceptance by the management of the union as necessary and helpful to the company and its employees.
2. Development between the union and management of a written agreement governing working conditions, hours of employment, wages, adjustment of grievances, and handling of disputes.
3. Systematic cooperation between the union and the management for increased output, reduced costs, improved quality, greater efficiency, conservation of materials, better working conditions, and the elimination of injury, fatigue, waste, etc.
4. Willingness of the company to do all within its power to stabilize employment as well as share with its employees from time to time the gains arising from cooperation.
5. Establishment of joint conference machinery representative of both union and management to promote and maintain cooperative effort.

The plan sets forth the organization of the cooperative machinery, the representation of union and management, the procedure of the cooperative conferences, and a number of subjects which might be considered at the cooperative meetings. It is stated that the specific purpose of the cooperative conferences is to consider proposals of mutual helpfulness; therefore, criticisms, faultfinding, and the handling of grievances should be ruled out of conference procedure.

[1] The information in regard to the union management agreement between Yeomans Bros. Pump Co. and the machinists' union was furnished the Bureau of Labor Statistics by B. M. Squires, of Chicago.

Syrup Workers—W. H. Cargill Co., Columbus, Ga.

THE cooperative agreement between the W. H. Cargill Co., of Columbus, Ga., and the Syrup Workers' Union No. 108, of the Brewery Workers' International Union, has for its object the "removing, as far as possible, [of] all causes for misunderstanding and friction, and of promoting to the greatest possible degree the mutual helpfulness of the two organizations."

The union agrees to promote in every possible legitimate way the distribution and sale of syrup and other products of the company and pledges its support in a constructive and responsible way to the end that quality and quantity of production may be maintained, and further pledges its cooperation in effecting such economies in manufacturing as may be brought about by introduction of improved machinery. Realizing that continuity of operation is essential to successful operation of the factory, it also agrees that in the event of differences which may arise in respect to details of operation, compensation, hours of labor, working conditions, or any other matter of controversy, a period of not less than 60 days shall be allowed for the holding of conferences between the management and the executive committee of the union.

The company agrees to the recognition of the bona fide trade-unions of its employees as their proper agents in matters affecting their welfare. It recognizes the unions as desirable, not only to the welfare and protection of their members, but also to the management, inasmuch as the cooperation of their members is essential to the continued and successful operation of its manufacturing plant. The company also agrees to maintain good working conditions, fair wages, and, as far as practicable, continuity of employment.

The agreement provides that representatives of both parties shall meet at regular intervals, preferably once a month, but as often as necessity may require, for the discussion of any question that may arise and for the further extension of a spirit of loyalty, helpfulness, and cooperation.

Increased Labor Productivity in Coal Mines, 1911 to 1929

THE increase in productivity in the coal mines of the United States from 1911 to 1929 is shown in the following table taken from the United States Bureau of Mines Report of Investigations No. 3082, dated January, 1931. In 1911 the production of 1 ton of coal required 2.72 hours and 0.323 shift; by 1929 the time had been reduced to 1.919 hours and 0.237 shift. In anthracite mines alone the time required in 1929 was 3.694 hours and 0.462 shift as compared with 3.754 hours and 0.473 shift in 1911; in bituminous mines it was 1.668 hours and 0.206 shift in 1929 compared with 2.472 hours and 0.288 shift in 1911.

NUMBER OF MAN-SHIFTS AND NUMBER OF MAN-HOURS REQUIRED TO PRODUCE 1 TON OF COAL IN THE COAL MINES OF THE UNITED STATES

[Based upon all employees, surface and underground]

Year	Bituminous		Anthracite		Total	
	Shifts	Hours	Shifts	Hours	Shifts	Hours
1911	0.288	2.472	0.473	3.754	0.323	2.720
1912	.272	2.357	.477	3.812	.304	2.589
1913	.277	2.389	.493	3.948	.312	2.644
1914	.269	2.324	.485	4.362	.308	2.684
1915	.255	2.208	.456	4.107	.289	2.519
1916	.257	2.224	.462	3.810	.288	2.462
1917	.265	2.222	.441	3.529	.292	2.419
1918	.265	2.159	.437	3.489	.290	2.359
1919	.261	2.104	.466	3.734	.294	2.363
1920	.248	1.992	.439	3.510	.274	2.205
1921	.239	1.915	.477	3.822	.281	2.263
1922	.232	1.867	.432	3.465	.255	2.055
1923	.223	1.805	.452	3.623	.256	2.061
1924	.219	1.771	.499	3.989	.262	2.112
1925	.221	1.785	.471	3.776	.248	1.994
1926	.222	1.799	.477	3.823	.255	2.057
1927	.220	1.772	.465	3.714	.252	2.039
1928	.211	1.714	.462	3.702	.244	1.971
1929	.206	1.668	.462	3.694	.237	1.919

Labor Conditions in Highway Construction Camps in Minnesota

IN THE summer of 1930 an investigation was made by the Minnesota Industrial Commission, following numerous complaints that road contractors were taking advantage of the unemployment crisis by imposing upon their workers long hours, low wages, unreasonably high rates for board, and poor housing, and were requiring applicants for jobs to pay fees to employment agents. The investigators visited 13 construction projects operated by 44 contractors or subcontractors, most of whom had separate construction camps. The following are some of the findings in the report of this survey, which is dated August 19, 1930, and published in the Fifth Biennial Report of the Industrial Commission of Minnesota, 1929–1930:

Approximately 1,700 persons were employed on the 44 projects visited, the number of workers on the different operations ranging from 7 to 131, the average being 33.

Wages and Hours of Labor

ON 27 of the 38 operations for which hours of work were reported the regular hours per day were 10; on 5 operations the hours were 11; on 4 they were 11½; and on 2, from 10 to 11. For a few occupations the hours of work were reported as from 12 to 17 per day. Cooks had long hours, in one case the time put in at this work being reported as 18 hours per day. Other cooks had a 16-hour day. A few of the camps had woman cooks, one stating that her work required 16½ hours per day.

The hourly wages paid by 29 contractors ranged from 25 to 50 cents; the daily wages of 5 contractors were from $2.00 to $3.50; the wages per month were from $40 to $50 with board.

Deductions from wages.—One contractor who had 50 men under him deducted $1 per month from their wages for medical service. This contractor had sublet portions of his project to four other contractors who reported that they were required by him to deduct $1 per month from the wages of each of their workers to be turned over to the head contractor for medical service. These four subcontractors had 155 workers and could not explain satisfactorily the service rendered for the money collected in this way. One subcontractor stated that this deduction was made from the first week's wages and that if a worker left his job in less than 5 days, 20 cents was deducted for each day he was employed.

Labor Supply and Labor Turnover

SIX of the contractors secured all their workers through licensed employment agencies, and five other contractors obtained nearly all their men from such agencies and made up the rest of their crews with local workers and transients applying for work on the job. Fourteen contractors had recourse to licensed employment agents to secure some of their labor, while 14 other contractors brought old employees with them, engaged local workers, hired their men on the job, or used crews made up in these three ways. The fees of licensed employment agencies for referring workers to these jobs ranged from $1 to $3. One contractor reported that local men were not satisfactory, and another that local farm labor made poor skinners.

On most of the projects the labor turnover was slight, which was attributed by the contractor to the scarcity of jobs. One employer who had been carrying on his operation for several months said that 95 per cent of the crew he started with still remained. In one instance, however, a check of a licensed employment agency's records showed that 292 men had been referred in less than 4½ months to a contractor who never employed over 50 men at one time. It is suggested that this large turnover might be accounted for at least in part by the fact that this contractor paid the lowest wages and asked next to the highest rate for board found to be prevailing on any of the undertakings covered in the survey.

Charges for Board and Lodging

CONTRACTORS charged employees from $1 to $1.25 per day for board and lodging, 15 of the 25 reporting this item charging $1 per day. On other undertakings the workers lived at home or boarded in town, and in one case with a neighboring farmer.

A comparison of the foregoing charges for maintenance with the wages paid to the employees shows that the highest charges were not made where the highest wages were paid. On the two operations where the charge for maintenance was $1.25 a day the wages paid were 35 cents an hour, and on one of the operations where $1.20 was charged for camp board and lodging only 25 cents an hour was paid for labor, while among the 15 contractors who charged $1 a day for maintenance were 3 who paid 40 cents an hour and one who paid 50 cents to drivers, and in the two cases where $1.10 was charged for maintenance the wages were 40 cents and 50 cents an hour.

Living Conditions

Most of the camps were suitably located. Several camps, however, lacked sufficient space, though the investigators found that in some cases the contractors had paid as much as $100 for 6 weeks' use of space which was wholly inadequate. In some crowded camps the stables were too near the kitchen, and in other camps the horses had to pass too close to the kitchen door in going to and from the stables. In some cases camps were so near the construction job or the road that the kitchen, dining room, and bunk houses were very dusty. One camp was in a hollow and some of the workers lived in their own tents which they pitched on the hillside.

Approximately half of the sleeping quarters were good, according to the report, about a quarter were fair, and the remainder bad. Many had no window or door screens, and a few had no doors at all. There were many flies and mosquitoes in the bunk houses. Some of the sleeping quarters were found to be only partly floored and a few were without any flooring. Many were dirty and untidy, and in one of them straw and débris were scattered around. Some were too crowded.

The bunks were usually of the double-deck single type, constructed of iron or steel, with springs and mattresses. A few double-deck double bunks were found in some of the camps. In about one-half of the camps the mattresses and bedding were found to be clean or fairly so. In the other half the bedding was described as being "poor," "soiled," "dirty" or "very dirty." None of the beds contained sheets, and pillows were observed in only a few of the bunk houses.

There appeared to be a scarcity of washbasins in most of the camps, and in several there were none at all. No towels were observed in any of the camps. One of the camps, however, contained shower baths, with hot and cold water, which the employees were privileged to use two or three times a week.

Toilets were provided in most of the camps. Only a small percentage of these were unclean. Four of the camps contained none, but two of these had toilets where the work was being done. In one camp the toilet consisted of stakes driven into the ground and burlap on three sides, and in another camp there was merely a pole resting on stakes. Paper was found in only a few of the toilets and in only a small percentage had any lime been used.

Over one-half of the kitchens and dining quarters were reported as clean and well equipped, and nearly all of these were free of flies. The remainder of the kitchens and dining quarters might be said to be fair or poor, the former slightly predominating. In some of them there were numerous flies. In almost all of the camps there were well-iced refrigerators for perishable food. Only a few camps had no refrigerators nor ice. In one camp a deep hole had been dug for a cellar, and the condition of the food found there was fairly good. In only one camp was complaint made by the workers concerning the food served.

The water supply in the camps was reported fairly good. A small number of camps were close to wells. Several other camps had pipes connecting with wells or with the municipal water supply. In nearly all of the camps the water was hauled in thresher tanks or barrels and kept in wooden barrels or metal tanks, some of which were left uncovered. In almost all of the operations and camps a dipper or common drinking cup was used. On two of the undertakings there were men with sore lips.

In approximately two-thirds of the camps there were covered cans for the garbage, and in nearly all of the remaining camps it was col-

lected in uncovered containers. Ordinarily, the garbage was taken away by farmers, in one case every day, and in other cases several times per week. In one camp, however, the garbage was piled up on the ground and was swarming with flies.

Nearly all of the cesspools were covered, though a few were not, and in several camps the kitchen waste water was poured out on the ground and flies swarmed around the open pools.

In several camps empty vegetable cans were buried, and in several others such cans were burned. In the great majority of the camps, however, the cans were in piles on the ground, frequently too close to the kitchen and constituting breeding places for flies.

Accidents

THE investigators made no attempt to find out the number and character of accidental injuries in connection with the road-construction projects visited. The report of the survey indicates, however, that there had been minor accidents on many undertakings. One fatal and two serious nonfatal accidents were also reported. On other projects only a few of the workers had had minor injuries. Several contractors reported no accidents. It was noticed that on certain paving jobs men were suffering from cement burns.

A large number of camps had good first-aid kits and other camps had small kits, but a number of the projects had no means of rendering first aid.

In some camps open boxes of dynamite were carelessly placed, and in several cases open boxes of this explosive were found lying around the working field. On one project a pile of boxes of dynamite was discovered within 3 feet of tracks of passing trucks. In most of the blacksmith shops in the camps, striking tools with mushroomed heads and some with defective handles were found. Unguarded pulleys, belts, and shaft ends were also found in certain shops.

Labor Conditions in the Mines of India

THE report of the chief inspector of mines in India for the year ending December 31, 1929, gives figures showing the effect of the legislation against the employment of women underground. The average daily number of employees, by sex and place of work, in 1928 and 1929 was as follows:

TABLE 1.—AVERAGE DAILY NUMBER OF EMPLOYEES IN INDIAN MINES, BY SEX AND PLACE OF WORK

Place of work	Males		Females	
	1928	1929	1928	1929
Underground	86,155	92,856	31,785	24,089
Open workings	51,005	54,235	28,453	28,728
Surface	52,430	51,954	17,843	17,839
Total	189,590	199,045	78,081	70,656

While the total number of employees was greater in 1929 than in 1928, the number of female employees showed a marked decrease, which occurred almost exclusively among those working underground.

This reduction by 24 per cent was to some small extent due to the fact that the employment of women underground in mines other than coal and salt mines was prohibited with effect from July 1, 1929. It was, however, mainly due to the fact that with effect from the same date the number of women employed underground in coal mines was restricted to 29 per cent of the total labor force employed underground, which was the actual percentage so employed in 1928. In that year and in previous years the percentage fluctuated from day to day and from mine to mine. As under the new regulations, however, the percentage could not exceed what was formerly the average, a marked fall was inevitable; the percentage for coal mines was 23 and for all mines 21, as compared with 29 per cent and 27 per cent, respectively, in 1928.

As far as coal mines are concerned, the permitted percentage of women employed underground is to diminish annually by 3 until it is finally extinguished in 1939. In the salt mines, also, the percentage of woman workers allowed underground is to diminish annually and end in 1939. In 1929 the number employed underground in coal mining was 21,880 and in salt mining 333.

Comparative Output of Coal Mines

FIGURES are given showing the per capita output of coal in the different Provinces in 1929 as compared with the average output for the period 1924–1928, as follows:

TABLE 2.—ANNUAL OUTPUT OF COAL PER PERSON EMPLOYED, BY PROVINCE AND PERIOD

Province	Output (in tons) of coal per person employed—			
	Underground and in open workings		Above and below ground	
	1929	1924–1928	1929	1924–1928
British India	193	180	135	120
Bengal and Bihar	197	186	138	123
Assam	105	115	78	74
Baluchistan	69	57	52	36
Central Provinces	164	131	115	87
Punjab	104	87	58	51

With the exception of Assam, every Province shows a greater per capita output in 1929 than in the preceding period, and in Assam the exception does not hold when the total number of workers employed in the mines is used as the basis of calculation. The improvement is ascribed in the main to the increase in the use of coal-cutting machinery. Some comparative figures for other countries are given: "In 1928 the output of coal per person employed above and below ground in the United Kingdom was 253 tons. In 1927 comparative figures in certain other countries were: Japan, 136 tons; Transvaal, 543 tons; United States of America, 706 tons."

Warning is given, however, that in comparing these figures the fact must be borne in mind that both men and women are employed in the Indian mines, whereas elsewhere the employment of women in such work is unusual or entirely unknown.

Accidents

DURING the year 1929 there were 212 fatal accidents in the mines covered by the report, involving the loss of 266 lives—215 males and 51 females. There were also 651 serious accidents, involving injuries to 672 persons. No record is kept of minor accidents. Serious accidents are defined as "those in which an injury has been sustained which involves, or in all probability will involve, the permanent loss of the use of, or permanent injury to, any limb, or the permanent loss of or injury to the sight or hearing, or the fracture of any limb or the enforced absence of the injured person from work for a period exceeding 20 days."

TABLE 3.—ACCIDENTS AND DEATH AND INJURY RATES IN INDIAN MINES, 1929

Place of accident	Number of fatal accidents	Death rate per 1,000 persons employed		Number of serious accidents	Serious injury rate per 1,000 persons employed	
		Male	Female		Male	Female
Underground	153	1.79	1.66	391	3.94	1.58
Open workings	30	.50	.14	82	1.16	.87
Surface	29	.42	.39	178	3.06	1.18

The death rate per 1,000 persons employed, without regard to sex, was for those employed underground, 1.76; for those in open workings, 0.37; and for those on the surface, 0.42; for the entire force it was 0.99.

INSURANCE AND BENEFIT PLANS

Delaware Old-Age Pension Act

BY THE approval on January 29, 1931, of an act providing for the assistance of aged persons, Delaware became the thirteenth State[1] (not including Alaska) to adopt an old-age pension law.

The passage of an old-age pension law in Delaware culminates the efforts of legislators and public-spirited and interested citizens over a period of years in that State. An attempt was made by the Legislature of Delaware in 1929 to enact such a law, but the measure failed, as many of the legislators were of the opinion that further study of the subject should be made. In the meantime Mr. Alfred I. DuPont, of Wilmington, Del., inaugurated upon his own responsibility an old-age pension system out of his private funds, and as a result it has been reported that approximately 1,300 needy aged citizens of Delaware have been and will continue to be assisted through the private efforts of Mr. DuPont until the new law goes into effect on July 1, 1931.

This law is unique among the old-age pension laws thus far enacted, for under it all of the cost is borne by the State.

Analysis of Delaware Act

THE Delaware act is analyzed below, showing the principal features of the law.

Date of approval.—January 29, 1931; in effect July 1, 1931.

Establishment of relief.—A State old-age welfare commission is created. The membership of the original commission is appointed by the governor and selected from each of the three counties (rural New Castle, Kent, and Sussex) and the city of Wilmington; subsequent vacancies and appointments are to be filled by the chief justice of the State supreme court. The members of the commission are to serve without pay, but will be entitled to an attendance fee of $5 for each meeting held and other expenses in the performance of their duties. The commission is empowered to adopt necessary rules and regulations and to appoint subordinate officers.

Requirements for pension.—To be eligible for benefits under the law the applicant must be (1) 65 years of age or over; (2) a resident of the United States for 15 years and a resident of Delaware for not less than 5 years; and (3) without children or other responsible person to support him. No one may receive assistance (1) who has disposed of any property for the purpose of obtaining assistance; (2) who is an inmate of any public reform or correctional institution; or (3) who has been a professional tramp or beggar one year prior to making application.

Application.—Application must be made to the State old-age welfare commission.

Benefits.—The amount of assistance allowed is dependent upon the circumstances in each case as shown by investigation by the commission, but is limited to $300 annually, including the applicant's income from property or other sources. No amount in excess of $25 per month shall be allowed.

[1] California, Colorado, Delaware, Kentucky, Maryland, Massachusetts, Minnesota, Montana, Nevada, New York, Utah, Wisconsin, and Wyoming.

When the commission determines that a person is entitled to assistance, a certificate is to be issued showing the amount of monthly assistance granted. This certificate shall be valid for one year unless revoked for cause, and is renewable at the option of the commission. The amount is payable by the State treasurer to the person named in the certificate, but if incapable of receiving same (upon the testimony of at least three credible witnesses) the money may be paid to some other person for the benefit of the aged person.

Upon death of a beneficiary an additional allowance for funeral expenses (limited to $100) shall be made. Unpaid installments due under the certificate are also payable to the legal representative of the deceased.

Pensioners are prohibited from receiving any other public assistance except, in cases of extreme emergency, medical and surgical treatment.

Revision or revocation of benefits.—A person receiving relief under the act must notify the commission of any property or income received after his case was passed upon, so that the commission may either cancel the certificate or vary its amount. Certificates obtained improperly are subject to cancellation by the commission, and the beneficiary in such a case is thereby disqualified for one year from making an application for another allowance. The amount of assistance ceases and the certificate is canceled upon the pensioner's admittance to any charitable or benevolent institution. Upon conviction for an offense punishable by imprisonment for one month or more, the beneficiary forfeits assistance during the period of imprisonment.

Assignability of relief, etc.—Relief granted under the act is not subject to assignment, execution, sale or charge, nor to fees allowed attorneys, etc., in bankruptcy proceedings. The property of qualified persons under the act is exempt from taxation and assessment for public purposes.

Reports.—An annual report by the old-age welfare commission is required to be submitted to the governor, within 90 days after the close of each calendar year, showing all expenditures and other information pertaining to the administration of the act. Upon the granting of every application and the issuance of the certificate the commission must report the same to the State treasurer.

Appropriation.—An annual appropriation of $200,000 is made by the act, and all expenses and salaries are to be paid from this appropriation.

Violations.—Violations of the act are deemed misdemeanors and punishable upon conviction by a fine of $500 or imprisonment not to exceed three years, or both.

Life Insurance and Sick Benefits for Street-Railway Employees

THE agreement of the Gary Railways Co., Gary, Ind., with division No. 517 of the Amalgamated Association of Street and Electric Railway Employees, effective until July 1, 1931, contains the following provision:

> The company shall, at its own expense, insure employees covered by this agreement against death and total disability in the amount of $1,000, and against sickness in the amount of $20 per week, to be paid for 26 weeks during disability in any one year, commencing on the eighth day after the disability is incurred.

HEALTH AND INDUSTRIAL HYGIENE

Incidence of Illness Among Adult Wage Earners

A STATISTICAL study, by Dean K. Brundage, of the incidence of illness among wage-earning adults was published in the November and December, 1930, issues of the Journal of Industrial Hygiene. The study is based on the morbidity experience among a number of industrial groups at various periods and some studies among the general population, and forms one of a series of studies in the diseases of adult life being made by the division of research of the Milbank Memorial Fund.

As there is more or less vagueness in the term "case" of sickness it has been defined for the purposes of the study in terms of a "waiting period"; that is, cases are included if they last longer than a certain minimum period such as one, two, or three days, a week, etc., it being considered that in most cases comparisons of sickness are valid if based on an identical waiting period. Of nearly as great importance as the unit of measurement in comparisons of industrial sickness rates is the provision, or lack of provision, for sick leave, since it has been shown to have a decided effect upon the sickness distribution. A comparison of the frequency of absence on account of sickness in two companies, one of which paid wages during disability while the other did not, showed a relatively high rate for cases of short duration in the company which pays during sickness, while in the second company the larger proportion of cases were found among those of longer duration. In the company in which full wages were paid a check on malingering was made, the company physician calling on all those who reported themselves as unable to work on account of illness. Over a 3-year period during which a large percentage of the cases lasting one or two days were diagnosed it was found that malingering was a negligible factor in the apparently high rate of short-period illnesses. Owing to the fact that the pay would not be forfeited, the tendency among these employees was to remain at home and take care of their ailments, especially colds and other so-called minor respiratory diseases, with the result that the amount of disability among such employees was lessened as well as the spread to others of communicable disease checked.

The most frequent causes of disability are the respiratory diseases (colds, influenza, bronchitis, and tonsillitis) and digestive diseases, while the most frequent causes of death are the breakdown of the circulatory system, the kidneys, and the lungs; the nervous diseases; and malignant diseases such as cancer. The ratio of the ordinary respiratory diseases to death in a general population group has been shown to be 300 to 1 and of diseases and disorders of the digestive system the ratio was about 200 to 1, while the ratio of illnesses due to

the degenerative diseases, cancer, etc., was only about 10 cases to 1 death. From these figures it will be seen that mortality statistics do not present a true picture of the general ill health of the people as a whole.

Diseases Causing Sickness Among Industrial Workers

STATISTICS of the frequency of different diseases lasting one week or longer among a group of industrial sick-benefit associations, having a combined membership of 100,000 to 150,000, have been compiled by the United States Public Health Service since 1920. These figures have shown the great preponderance of the respiratory diseases and diseases of the digestive system among the causes of sickness.

During the 8-year period 1921 to 1928, inclusive, respiratory diseases caused 42.4 per cent of total disabilities from sickness and nonindustrial accidents. In the respiratory group, influenza was by far the most frequent cause of sickness followed by tonsillitis, bronchitis, and pneumonia. Diseases of the digestive system came second in the list of causes of illness, and nonindustrial accidents, third; the remaining causes representing only 34.2 per cent of the cases were, in the order of importance, diseases of the circulatory and genito-urinary systems, rheumatism, diseases of the nervous system, of the skin, of the organs of locomotion, epidemic and endemic diseases, and a small group of unclassified diseases. The contagious and infectious diseases such as typhoid fever, smallpox, diphtheria, measles, etc., upon which public health effort is often so largely directed, caused less than 3 per cent of the cases for which sick benefits were paid among this group. Approximately the same relative frequency of these broad disease groups is maintained in records of disabilities lasting one day or longer instead of more than one week. A study of sickness incidence among employees of the Edison Electric Illuminating Co., of Boston, showed that the number of days of disability on account of respiratory diseases averaged, over a 10-year period, 3.2 days per year for males and 5.5 days for females, while colds alone resulted in the loss of 1.4 days and 2.1 days, respectively.

Aside from the respiratory diseases, there is little seasonal variation in the sickness rates, although there is a tendency for the nonrespiratory diseases to be least prevalent in October and November and most frequent in midwinter.

Factors Affecting Rate of Disabling Sickness

INDUSTRIAL groups differ markedly from the general population in age grouping, the younger adult ages predominating. It has been estimated that in the manufacturing industries of the country as many as 80 per cent of the men are below the age of 45, and that probably 90 to 95 per cent of the women are below that age. Also, there is evidence that industrial workers are not representative of the general population from a health standpoint, but represent on the whole a rather favorably selected group. Between the ages of 15 and 50 the sickness rates, it has been shown, tend to rise more rapidly in the general than among the industrial groups. After the age of 50, however, the frequency of disabilities among industrial workers lasting more than one week increases fairly rapidly, as does also the number of days lost per man per year. There is some evi-

dence that, in addition to the fact that more serious diseases naturally tend to occur among older persons, some loss of recuperative ability begins to show even in the early thirties.

Absence on account of illness is more frequent among female employees than among males. The mutual benefit associations' records showed that the frequency of disability lasting longer than one week among women was 50 per cent higher over a 7-year period than among the men, and that the rate for a majority of the disease groups was higher among the women. The rate was twice that of the male rate for neurasthenia, diseases of the pharynx and tonsils, appendicitis, the genito-urinary group exclusive of nephritis, for certain general diseases, and for ill-defined and unknown causes; but among the women there was a much lower rate for hernia, for pneumonia the rate was less than half the male frequency, there was less rheumatism, fewer cases of lumbago and other diseases of the organs of locomotion, and of diseases of the veins and of the bones and joints. The rate for nonindustrial injuries per 1,000 persons was about the same for the two sexes. When disabilities lasting one day and over are included, the rate is still higher, as short disabilities tend to occur much more frequently among women.

There is little information relative to racial susceptibility, but such data as are available indicate that immigrants from warm regions such as Greece and Italy may be more liable to attack from respiratory diseases than immigrants from northern Europe or natives of this country.

Comparisons of such statistics as are available of sickness according to marital status indicate that for women both the frequency and the severity rates are higher among the married than among the single. Records which were kept for the employees of one company for a period of eight years show that the married women appear to have been disabled considerably oftener than the single by influenza and grippe, and by diseases of the nasal fossae, but that frequency of diseases of the pharynx and tonsils was about the same in the two groups. In the digestive group of diseases the greatest excess among the married was in diseases of the stomach, diarrhea, and enteritis, while among other diseases a considerably higher frequency rate was found for rheumatic affections. One of the widest differences was for the genito-urinary group, the rate, especially for the more serious cases, being much higher among the married. Although it is not possible to determine definitely the reasons for these differences, the report states that it is quite probable "that the double duty of the married industrial worker, i. e., the factory job in addition to the homekeeping job involving as it frequently does the strain of child-bearing and the care of children as well as the housework itself, may result in overwork sufficient to predispose to illness of any nature, and may thereby exact a toll of incapacitation much greater than that experienced by the single woman in industry."

Alcoholism is of comparatively little importance in some industries while in others it has a decided influence on the sickness rate. It is often prevalent among workers subjected to especially arduous working conditions. For example, in the anthracite coal-mining industry, the annual number of absences of two consecutive days or longer on account of alcoholism in two mines amounted to 474 per

1,000 men for miners engaged in cutting and loading coal, as compared with 172 for all other occupations. In the cement industry the rates varied from 17 per 1,000 in one plant in occupations in which there was small exposure to dust or heat, to 263 for quarry labor and 485 for those exposed to heat in the kiln room. Among these groups in both industries the sickness rate was also definitely higher than among the other employees. Although these rates were based on rather small numbers, it appears that drinking was concentrated largely in the groups doing the most laborious and disagreeable work. Therefore, reduction in drinking among industrial employees, the writer says, may be closely connected with an improvement in working and hygienic conditions.

Industrial Selection

Sickness rates may be expected to be somewhat lower for an industrial group than for the general population, since the industrial group is made up of individuals who are ordinarily able to engage in work, while the general population includes many invalids and persons with physical impairments serious enough to prevent industrial employment. The securing of comparable data is difficult since there is no satisfactory way of ascertaining when a person not employed is actually disabled by sickness and would have remained at home on account of illness if he had been employed at the time. Also, in industrial establishments it is comparatively easy to obtain an exact record of absences from work on account of sickness, while in a general population this can be secured only by repeated house-to-house canvasses, and even then some of the shorter sicknesses may be forgotten in the intervals between visits. The study of the incidence of sickness in Hagerstown, Md., made by the United States Public Health Service in 1921, serves, however, in the present study for a comparison of sickness rates with a group of workers employed in a rubber factory. For both groups the sickness incidence for the age period 20 to 24 was taken as the basis of comparison of the trend in the age curves of illness. In the general population the trend was steadily upward while among employees of the rubber company the frequency rates, based on disabilities lasting two working-days or longer, rose more slowly from age 25 to 40, declined from then to age 60, after which the upward trend in frequency of disability was resumed. Comparisons with other employees' groups which were made in the original study are not included in the present one, but none of these, it is stated, showed as great a rise in the frequency of sickness between the ages of 25 and 55 as did the Hagerstown curve.

From the evidence in these studies that illness frequency failed to increase with age as rapidly among industrially employed persons as among those in the general population, it is suggested that there may be a tendency for the sickly to give up their employment, thus providing a more favorably selected group from the standpoint of health in middle age and beyond than is found among those in the earlier years of industrial life. Proof of a process of the survival of the fittest was afforded by the recent experience of a public service company in Massachusetts, which was considering the advisability of compulsory retirement of all employees over 70 years of age. It was found from the sickness records of the company that the amount

of sickness among its employees over the age of 70 compared very favorably with that of younger age groups.

The report states that if a process of selection of this sort is really going on in industry, lower sickness rates among persons with the longer service should be expected in those industries which are relatively free from health hazards. The records of a rubber manufacturing company in Ohio shows that the frequency of disabling sickness decreased markedly among persons with the longer employment in the industry, the rate being more than four times as high among those with less than three months' service as among persons having more than five years' service. More complete records from a public utility company in New England giving the sickness incidence by age groups shows definitely lower rates of sickness for both males and females in each age group up to 55 and over for employees having more than five years' service as compared with those having less than five years' service.

In further proof of the theory that a process of selection is going on through the self-elimination from an industry of those less adapted physically to the particular work or working conditions involved, it would be expected that the frequency rate of disabling sickness would be higher among those who quit than among those who remained, provided there was no health hazard which increased the sickness rate immediately among those who remained. Data covering former employees of a Portland cement plant and a group of anthracite coal miners, both of which are dusty trades but in which the effects of the dust inhalation are delayed, showed greater frequency of disability of two days or longer from respiratory disease among those who quit than among those who remained at work up to a period of about eight years' service. After that time the respiratory rates were more nearly equal in the two groups, as the effect of the dust hazard began to appear even in those relatively the most immune to its effects.

Occupational Health Hazards

Records of disability from sickness are available for a few dusty trades. The highest sickness frequency was found among a group of gold miners, and the highest respiratory disease rate among the granite cutters of Vermont. High frequency rates for respiratory diseases were found in each one of the four dusty trades—gold mining, anthracite mining, granite cutting, and cement manufacturing. A very definite excess in the incidence of influenza and grippe was shown in all the four dusty trades. There was a high incidence of rheumatism among both the gold and coal miners, and diseases of the skin were unusually prevalent in all the dusty trades studied except granite cutting.

In spite of the unusually favorable selection of workers in the steel industry, due to the fact that the nature of the work demands only the stronger types of men, pneumonia is unusually high in this industry. In a study, as yet uncompleted, by the Public Health Service, it is shown that cases of influenza and pneumonia are abnormally frequent in the blast-furnace, coke-oven, and open-hearth departments, and in the open-hearth department, bronchitis as well. In each of these departments there is a heat hazard together with exposure to extremely wide variations in temperature.

INDUSTRIAL ACCIDENTS AND SAFETY

Accident Experience in the Iron and Steel Industry to the End of 1929

IN the iron and steel industry as a whole the accident rates, both as to frequency and severity, showed increases from 1928 to 1929—being the first increase in frequency recorded since 1922 and the first increase in severity since 1926. The frequency rate rose from 19.7 to 24.8 per 1,000,000 hours' exposure and the severity rate from 2.2 to 2.6 per 1,000 hours' exposure. Slight increases in severity rates from 1928 to 1929 were registered in the following departments: Bessemer converters, open-hearth furnaces, foundries, heavy rolling mills, plate mills, rod mills, tube mills, unclassified rolling mills, fabricating shops, wire drawing, mechanical department, coke ovens, axle works, docks and ore yards, cold rolling, and unclassified. No change took place in the rate for sheet mills. One group of plants erecting structural steel had an increased rate and the other group a decreased rate. The other 11 departments all had a lower severity rate in 1929 than in 1928.

Experience in a Selected Group of Companies

TABLE 1 presents the experience of six companies which were among the first to undertake active accident prevention and whose record has been remarkable. As the table shows, from 1913 to 1928 there was an almost constant decline in the rates. In 1929, however, slight increases occurred in the rates for five of the plants; there was no change in the frequency rate in Group A manufacturing miscellaneous steel products, while a decrease in rates occurred in one plant—that manufacturing wire and its products.

TABLE 1.—ACCIDENT FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) FOR A SELECTED GROUP OF PLANTS, 1913 TO 1929, BY PRODUCT AND YEAR

Year	Fabricated products	Sheets	Wire and its products	Tubes	Miscellaneous steel products		Total
					Group A	Group B	
1913	100.3	61.6	59.3	27.2	70.9	41.3	60.3
1914	59.0	47.2	46.2	12.5	50.7	27.6	43.5
1915	53.5	37.3	52.4	10.8	51.9	23.0	41.5
1916	52.1	34.0	48.2	12.4	67.6	28.2	44.4
1917	51.3	33.9	32.5	10.2	51.3	20.5	34.5
1918	38.2	25.9	18.8	9.1	42.0	31.4	28.8
1919	32.8	25.8	12.5	9.1	39.7	23.0	26.1
1920	35.3	22.7	12.0	8.9	35.3	18.6	22.9
1921	28.4	17.5	7.5	6.1	15.8	12.1	13.2
1922	33.8	16.9	7.9	7.1	14.5	10.8	13.0
1923	32.6	17.2	7.9	7.0	13.9	9.8	12.7
1924	33.4	10.3	6.2	5.1	11.8	7.9	10.2
1925	27.4	11.4	4.2	4.0	9.8	3.7	8.2
1926	24.3	9.4	3.9	3.6	6.6	3.8	6.8
1927	18.0	8.4	3.5	2.5	5.1	2.7	5.3
1928	19.7	8.7	4.0	2.3	5.3	2.4	5.6
1929	21.4	10.7	3.1	3.0	5.3	3.2	6.2

In order to get a complete view of the changes which have occurred since the safety movement was inaugurated, it is necessary to consider not only the frequency and severity in departments and production groups but also the changes in the causes of accidents. As shown in Table 2, a notable decline has occurred in the rate of accidents due to each of the principal causes of accidents from 1913 to 1929.

TABLE 2.—FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) IN A SELECTED GROUP OF PLANTS, 19 3 AND 1929, BY CAUSE OF ACCIDENT

Cause of accident	Frequency rates (per 1,000,000 hours' exposure)	
	1913	1929
Machinery	7.3	1.4
Vehicles	2.3	.2
Hot substances	5.4	.4
Falls	4.5	.7
Handling objects	26.7	2.7
Miscellaneous	12.9	.7
Total	60.3	6.2

Table 3 shows the frequency rates in detail for the selected group of plants since 1915 by cause of accident:

TABLE 3.—ACCIDENT FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) FOR A SELECTED GROUP OF PLANTS, 1915 TO 1929, BY YEAR AND CAUSE

Accident cause	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Machinery	4.9	5.4	4.5	4.0	3.3	3.4	1.8	2.2	2.3	2.0	1.6	1.5	1.3	1.4	1.4
Working machines	2.6	2.6	2.0	1.8	1.4	1.5	.8	1.1	1.0	.8	.7	.7	.5	.6	.5
Caught in	1.7	1.7	1.2	1.1	.9	1.0	.6	.8	.7	.6	.5	.5	.4	.4	(1)
Breakage	.1	.1	.1	.1	.1	.1	.1	.1	(1)	(1)	(1)	(1)	(1)	(1)	.1
Moving material in	.8	.8	.7	.6	.4	.4	.1	.3	.2	.2	.2	.2	.1	.2	(1)
Cranes, etc	2.3	2.8	2.5	2.2	1.9	1.9	1.0	1.2	1.3	1.2	.9	.9	.8	.8	.9
Overhead	2.0	2.5	2.2	1.9	1.6	1.5	.8	1.0	1.1	.9	.7	.7	.6	.6	.6
Locomotive	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1
Other hoisting apparatus	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	(1)
Vehicles	1.6	1.7	1.7	1.3	1.2	.1	.5	.4	.6	.5	.3	.3	.2	.2	.2
Hot substances	3.7	4.5	3.6	3.0	2.8	2.5	1.2	1.1	1.2	.9	.6	.5	.4	.4	.4
Electricity	.2	.4	.3	.3	.2	.3	.1	.1	(1)	.1	(1)	.1	(1)	(1)	(1)
Hot metal	2.3	3.0	2.5	2.1	2.0	1.8	.8	.7	.9	.6	.4	.4	.3	.2	.3
Hot water, etc	1.2	1.1	.8	.6	.6	.4	.2	.3	.2	.2	.1	.1	.1	.1	.1
Falls of persons	3.5	3.7	3.2	2.8	2.8	2.5	1.7	1.5	1.4	1.4	1.1	1.0	.7	.7	.7
From ladders	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	(1)	.1	(1)	(1)	(1)
From scaffolds	.2	.2	.3	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	(1)	(1)
Into openings	.1	.3	.2	.1	.1	.1	.1	(1)	.1	(1)	(1)	(1)	(1)	(1)	(1)
Due to insecure footing	3.1	3.1	2.6	2.3	2.3	2.1	1.4	1.3	1.1	1.1	.9	.8	.6	.6	.7
Falling material not otherwise specified	.7	.6	.4	.3	.4	-----	.1	.1	.1	.1	.1	.1	(1)	.1	(1)
Handling	20.6	21.5	15.7	12.8	11.7	10.4	6.5	5.8	5.5	3.9	3.4	2.9	2.0	2.3	2.7
Dropped in handling	7.6	8.4	6.1	5.5	5.0	4.4	2.6	2.6	2.3	1.9	1.5	1.2	.9	.9	1.2
Caught between	2.6	3.1	2.1	1.7	1.7	1.3	.7	.7	.7	.5	.4	.3	.2	.3	.3
Trucks	1.4	1.4	1.2	.9	.7	.6	.5	.4	.4	.2	.2	.2	.1	.1	.2
Lifting	2.5	2.5	2.0	1.4	1.4	1.1	.8	.8	.5	.3	.3	.3	.2	.2	.2
Flying from tools	.1	.1	.1	.1	.1	.1	.1	.1	.1	(1)	(1)	(1)	(1)	(1)	(1)
Sharp points and edges	3.8	3.1	2.2	1.5	1.3	1.5	1.1	.6	.6	.3	.4	.4	.3	.4	.4
Tools	2.6	2.9	2.0	1.7	1.4	1.4	.8	.7	.8	.6	.5	.5	.3	.3	.4
Miscellaneous	6.5	7.0	5.4	4.6	4.1	3.1	1.3	1.9	1.8	1.6	1.1	.4	.6	.7	.7
Asphyxiating gas	.1	.1	.1	.1	.2	.1	.5	(1)	.1	(1)	(1)	(1)	(1)	(1)	(1)
Flying, not striking eye	.6	.5	.4	.5	.3	.3	.2	.1	.3	.2	.1	.1	.1	.1	.1
Flying, striking eye	1.7	1.9	1.6	1.6	1.3	1.1	.5	.4	.2	.3	.2	.1	.1	.1	.2
Heat	.4	.4	.1	.2	.1	.1	.1	.1	(1)	.1	(1)	(1)	(1)	(1)	(1)
Other	3.7	4.1	3.2	2.2	2.2	1.5	.6	1.3	1.1	1.0	.8	.2	.3	.4	.4
Grand total	41.5	44.4	34.5	28.8	26.3	22.0	13.3	13.0	12.8	10.2	8.2	6.8	5.3	5.6	6.2

[1]Less than one-tenth of 1 per cent.

Experience in the Industry as a Whole

THE notable features of Table 4, which follows, is the uniformity with which the rates decline from period to period. This table includes all the data that it has been possible to assemble for the specified departments. In order to secure a sufficient volume to give a smooth curve a 5-year moving average has been applied to this group of rates. The rates are higher than those of Tables 1 and 2 since this group includes not only plants in which effective safety work has been done, but also those which have not yet reached a similar standard.

Contrasting the period 1907–1911 with that of 1925–1929, it is seen that the frequency rates in the different departments have declined as follows: Blast furnaces from 76.1 to 22.0; Bessemer converters from 101.5 to 13.7; open hearths from 84.2 to 22.6; foundries from 60.1 to 59.5; heavy rolling mills from 61.0 to 12.1; plate mills from 69.4 to 19.9; and sheet mills from 44.1 to 25.2. For the industry as a whole the rate declined from 69.2 to 20.5.

The decline in severity rates from 1907–1911 to 1925–1929 has been as follows: Blast furnaces from 10.6 to 4.2; Bessemer converters from 7.6 to 4.2; open hearths from 7.5 to 4.6; heavy rolling mills from 4.4 to 2.1; plate mills from 5.1 to 2.5; and sheet mills from 3.1 to 1.6. The only increase took place in foundries, whose severity rate rose from 2.7 to 3.0. For the whole industry the rate declined from 5.0 to 2.6.

TABLE 4.—ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, BY DEPARTMENT AND PERIOD

Frequency rates (per 1,000,000 hours' exposure)

Period	All departments	Blast furnaces	Bessemer converters	Open hearths	Foundries	Heavy rolling mills	Plate mills	Sheet mills
1907–1911	69.2	76.1	101.5	84.2	60.1	61.0	69.4	44.1
1908–1912	65.1	67.7	79.5	79.5	61.5	57.0	60.8	47.9
1909–1913	62.1	62.4	92.3	78.6	65.1	51.7	55.9	49.1
1910–1914	59.2	62.3	89.8	75.0	63.6	46.1	49.9	51.1
1911–1915	53.3	50.3	65.0	67.6	59.3	39.4	44.7	48.1
1912–1916	51.3	47.8	76.1	64.8	57.8	37.3	41.5	47.4
1913–1917	48.2	41.4	68.3	58.4	60.4	32.1	36.6	41.3
1914–1918	43.6	40.5	60.7	53.5	57.0	31.1	39.8	35.8
1915–1919	41.5	39.0	57.7	50.5	61.0	32.4	39.2	32.7
1916–1920	41.1	38.0	53.1	50.2	61.0	31.4	38.4	33.7
1917–1921	39.5	36.3	47.0	44.8	63.1	29.9	37.6	33.4
1918–1922	36.5	34.0	39.9	41.3	60.4	27.6	36.7	35.2
1919–1923	34.9	32.9	30.5	33.0	61.7	23.8	31.4	37.2
1920–1924	33.6	30.7	24.9	32.9	62.7	21.2	29.4	35.1
1921–1925	31.3	29.0	17.0	29.9	63.1	18.1	26.8	33.2
1922–1926	29.9	28.7	16.7	28.3	62.8	16.6	25.6	30.6
1923–1927	24.7	24.6	13.5	22.9	55.1	13.2	19.2	22.9
1924–1928	27.4	27.1	15.3	24.7	59.8	14.4	21.8	26.7
1925–1929	20.5	22.0	13.7	22.6	59.5	12.1	19.9	25.2

Severity rates (per 1,000 hours' exposure)

1907–1911	5.0	10.6	7.6	7.5	2.7	4.4	5.1	3.1
1908–1912	4.3	8.8	7.4	6.6	3.1	4.2	4.1	2.8
1909–1913	4.4	8.3	6.7	6.8	3.5	4.0	3.8	3.0
1910–1914	4.1	7.0	6.4	6.6	3.6	3.6	3.9	2.6
1911–1915	3.6	6.2	5.3	5.8	3.3	3.4	3.1	2.2
1912–1916	3.7	5.8	6.1	5.5	3.1	3.5	2.8	2.3
1913–1917	3.7	5.6	7.1	5.1	3.3	3.6	2.6	2.1
1914–1918	3.5	5.4	7.3	5.8	3.2	3.4	2.6	1.8
1915–1919	3.6	5.8	6.9	6.5	3.4	3.9	2.5	1.5
1916–1920	3.5	5.7	6.3	6.3	3.2	3.5	2.6	1.8

TABLE 4.—ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, BY DEPARTMENT AND PERIOD—Continued

Severity rates (per 1,000 hours' exposure)—Continued

Period	All departments	Blast furnaces	Bessemer converters	Open hearths	Foundries	Heavy rolling mills	Plate mills	Sheet mills
1917–1921	3.4	5.7	5.4	5.8	3.2	3.3	2.5	1.7
1918–1922	3.1	5.5	4.2	5.3	2.7	2.9	2.5	1.8
1919–1923	3.0	5.0	3.2	4.2	2.7	2.4	2.4	1.9
1920–1924	2.8	4.5	2.6	4.2	2.8	2.3	2.4	2.1
1921–1925	2.7	4.6	3.2	4.0	3.1	2.6	2.6	1.9
1922–1926	2.8	4.7	4.0	4.6	3.2	2.6	2.6	1.8
1923–1927	2.4	4.1	3.7	4.3	2.9	2.4	2.2	1.0
1924–1928	2.7	4.4	4.1	4.5	3.0	2.4	2.4	1.7
1925–1929	2.6	4.2	4.2	4.6	3.0	2.1	2.5	1.6

Table 5 gives summary data for the industry and for each department, the frequency and severity rates for 1929 and for the first year for which data were collected:

TABLE 5.—CHANGES IN FREQUENCY AND SEVERITY RATES SINCE FIRST YEAR DATA WERE COLLECTED, BY DEPARTMENT AND YEAR

Department and year	Frequency rates (per 1,000,000 hours' exposure)	Severity rates (per 1,000 hours' exposure)
The industry:		
1907	80.8	7.2
1929	24.8	2.6
Blast furnaces:		
1908	101.3	16.0
1929	19.2	2.5
Bessemer converters:		
1907	134.0	5.4
1929	3.3	2.9
Open hearths:		
1907	104.5	14.4
1929	19.1	4.4
Foundries:		
1907	65.0	3.4
1929	58.5	3.5
Bar mills:		
1915	60.3	1.9
1929	20.1	1.7
Heavy rolling mills:		
1907	65.3	4.8
1929	8.9	2.2
Plate mills:		
1907	113.7	9.1
1929	17.8	2.6
Puddling mills:		
1917	47.1	1.7
1929	.3	.1
Rod mills:		
1915	38.6	1.2
1929	21.0	4.0
Sheet mills:		
1907	44.8	4.1
1929	23.1	1.8
Tube mills:		
1907	96.4	3.1
1929	18.5	1.8
Unclassified rolling mills:		
1910	113.7	5.0
1929	23.9	2.4
Fabricating shops:		
1907	94.4	9.5
1929	25.9	3.3
Forge shops:		
1917	80.4	4.4
1929	27.9	----------
Wire drawing:		
1910	77.6	4.3
1929	5.8	3.9
Electrical department:		
1910	62.7	4.2
1929	5.8	3.9
Mechanical department:		
1908	91.3	6.6
1929	15.6	2.7
Power houses:		
1917	16.4	4.4
1929	5.0	.5
Yards:		
1907	66.6	7.5
1929	11.4	2.7
Coke ovens:		
1915	27.1	3.3
1929	6.0	2.2
Erection of structural steel:		
1915	110.4	25.4
1929	[1] 79.4 / [2] 62.2	[1] 29.4 / [2] 24.5
Axle works:		
1915	38.3	3.4
1929	56.4	1.2
Car wheels:		
1915	22.3	1.0
1929	72.1	2.8
Docks and ore yards:		
1915	26.1	2.4
1929	8.9	5.9
Woven-wire fence:		
1915	65.2	1.7
1929	10.5	.7
Nails and staples:		
1915	41.8	3.3
1929	6.1	.1
Hot mills:		
1923	43.5	1.3
1929	11.7	.8
Cold rolling		
1926	38.7	1.2
1929	30.5	2.9
Unclassified:		
1915	43.3	2.7
1929	23.0	2.0

[1] Data cover 907 employees.

[2] Data cover 985 employees.

Accidents and Accident Rates, by Year and Period

Table 6 gives detailed data showing, for each department and for the industry, the frequency and severity rates in each year for which data have been collected. The reason for the reputation for hazard borne by the blast-furnace department is shown by the high rates in this department; during the 22-year period covered by the figures, however, an enormous decrease in both frequency and severity rates has taken place. The Bessemer converter department started with frequency rates even higher than those of the blast-furnace department, but by 1929 had reduced these to considerably below those of the latter department; the reduction in severity has not been so great.

At the present time the open-hearth process furnishes much the largest tonnage of steel. Although its accident rates have declined steadily, both frequency and severity rates are still higher than those of most of the other departments. Foundries have shown an irregular series of rates, with practically no material improvement. The bar mills are usually hand operated and, while the severity rate is not great, there are a good many minor accidents.

A consistent and remarkable decline has been shown in the rates for both the heavy rolling mills and the tube mills, but plate mills take the lead among the departments in this respect. The unclassified rolling mills include a very miscellaneous group. Whatever could not be otherwise classified is placed here. This grouping is of some importance, since it shows that the general tendency toward declining rates is not confined to special types but is quite uniformly distributed.

Fabricating shops are particularly subject to machine accidents, but have nevertheless shown a rapid decline in rates. The frequency rates in the wire-drawing shops show notable declines, but severity remains almost constant. The power houses including boilers have always had a rather low rate except for an occasional explosion, and the decline in rates is therefore less conspicuous than in some other departments. The exposure in the erection of structural steel is not so large as could be desired, but it shows very clearly that this is highly hazardous and has not up to the present time improved very materially.

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR

The industry

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1907	27,632	61	106	6,530	6,697	0.7	1.3	78.8	80.8	4.4	1.7	1.1	7.2
1910	202,157	327	848	44,108	45,283	.5	1.4	72.7	74.7	3.2	1.2	.8	5.2
1911	231,544	204	931	34,676	35,811	.3	1.3	49.9	51.5	1.8	1.1	.6	3.5
1912	300,992	348	1,241	54,575	56,164	.4	1.4	60.4	62.2	2.3	1.1	.8	4.2
1913	319,919	426	1,200	55,556	57,182	.4	1.3	57.9	59.6	2.7	.9	.7	4.3
1914	256,299	219	860	37,390	38,469	.3	1.1	48.6	50.0	1.7	.9	.6	3.2
1915	116,224	87	372	13,481	13,940	.2	1.1	38.7	40.0	1.5	.7	.5	2.7
1916	166,646	159	728	20,655	21,542	.3	1.4	41.3	43.0	1.9	1.0	.6	3.5
1917	410,852	523	1,268	57,094	58,885	.4	1.0	46.3	47.7	2.5	.9	.6	4.0

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

The industry—Continued

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1918	474,435	543	1,253	54,293	56,089	0.4	0.9	38.1	39.4	2.3	0.8	0.5	3.6
1919	377,549	419	848	41,009	42,276	.4	1.0	40.2	41.6	2.2	.8	.6	3.6
1920	442,685	327	1,084	49,482	50,893	.2	.8	37.3	38.3	1.5	.8	.4	2.7
1921	237,094	156	527	21,279	21,962	.2	.7	29.0	30.8	1.3	.7	.5	2.5
1922	335,909	236	878	32,120	33,234	.2	.9	31.9	33.0	1.4	.8	.5	2.7
1923	434,693	314	1,188	41,766	43,268	.2	.9	32.1	33.2	1.4	.8	.5	2.7
1924	389,438	312	1,133	34,481	35,920	.3	1.0	29.5	30.8	1.6	.9	.5	3.0
1925	443,158	277	1,091	36,404	37,772	.2	.8	27.3	28.3	1.2	.8	.4	2.5
1926	436,692	322	1,202	31,667	33,230	.2	.9	24.2	25.3	1.7	.8	.4	2.9
1927	395,707	245	1,033	22,060	23,338	.2	.9	18.6	19.7	1.2	.8	.3	2.3
1928	418,163	229	993	23,434	24,656	.2	.8	18.7	19.7	1.1	.8	.4	2.2
1929	509,700	304	1,781	35,836	37,921	.2	1.2	23.4	24.8	1.2	1.0	.4	2.6
Blast furnaces													
1908	1,566	9	11	456	476	1.9	2.3	97.1	101.3	11.5	2.7	1.8	16.0
1910	19,389	68	68	4,971	5,107	1.2	1.2	85.5	87.9	6.9	1.7	1.0	9.6
1911	21,479	52	54	3,303	3,409	.8	.8	51.3	52.9	4.8	.9	.8	6.5
1912	27,154	73	87	4,790	4,950	.9	1.1	58.8	60.8	5.4	1.0	.8	7.2
1913	31,988	86	80	4,749	4,945	.9	.8	58.1	59.8	5.3	1.0	.9	7.2
1914	26,572	45	77	3,935	4,057	.6	1.0	49.4	51.0	3.5	1.0	.7	5.2
1915	10,721	19	23	981	1,023	.6	.7	30.5	31.8	3.5	.6	.4	4.5
1916	14,905	23	57	1,763	1,843	.5	1.3	39.4	41.2	3.1	.9	.6	4.6
1917	36,202	79	93	4,430	4,612	.7	.9	40.9	42.5	4.4	.9	.5	5.8
1918	41,449	102	72	4,358	4,532	.8	.6	35.0	36.4	4.9	.8	.5	6.2
1919	32,889	94	67	3,745	3,906	1.0	.7	38.0	39.7	5.7	1.0	.5	7.2
1920	35,470	47	58	3,214	3,319	.4	.5	30.2	31.1	2.7	.9	.4	4.0
1921	15,486	23	24	1,160	1,207	.5	.5	25.0	26.0	3.0	.5	.4	3.9
1922	17,933	38	35	1,586	1,659	.7	.7	29.4	30.8	4.2	.4	.5	5.1
1923	29,698	53	68	2,702	2,823	.6	.8	30.3	31.7	3.6	.1	.5	4.2
1924	25,268	50	66	2,248	2,364	.7	.9	29.7	31.3	4.0	1.1	.5	5.6
1925	25,819	40	51	1,789	1,880	.5	.7	23.1	24.3	3.1	.9	.4	4.4
1926	25,893	42	63	1,881	1,986	.5	.8	24.2	25.5	3.2	.8	.5	4.5
1927	22,870	39	58	1,489	1,586	.6	.8	21.4	22.8	3.4	.7	.4	4.5
1928	21,697	23	47	1,314	1,384	.4	.7	20.2	21.3	2.1	.9	.4	3.3
1929	22,779	18	45	1,246	1,309	.3	.7	18.2	19.2	1.6	.6	.3	2.5
Bessemer converters													
1907	967	1	5	383	389	0.3	1.7	132.0	134.0	2.1	0.9	2.4	5.4
1910	5,070	20	18	1,943	1,981	1.3	1.2	127.7	130.2	7.9	.9	1.6	10.4
1911	5,155	6	24	1,237	1,267	.4	1.6	79.9	81.9	2.3	1.1	1.1	4.5
1912	6,521	9	37	1,892	1,938	.5	1.9	96.7	99.1	2.8	1.0	1.5	5.3
1913	6,885	16	42	1,610	1,668	.8	2.0	77.9	80.7	4.6	1.2	1.2	7.0
1914	4,470	6	25	685	716	.4	1.8	51.1	53.3	2.2	1.2	.9	4.3
1915	3,160	2	21	494	517	.2	2.2	52.1	54.5	1.3	1.4	.8	3.5
1916	4,070	13	34	848	894	1.1	2.8	69.5	73.4	6.4	2.1	1.2	9.7
1917	5,979	20	21	1,194	1,235	1.1	1.2	66.6	68.9	6.7	1.3	1.2	9.2
1918	5,881	13	18	877	908	.7	1.0	49.7	51.4	4.4	1.0	.8	6.2
1919	6,555	14	18	849	881	.7	.9	43.2	44.8	4.3	.5	.9	5.7
1920	6,907	5	9	750	764	.2	.4	36.2	36.8	1.4	.3	.6	2.3
1921	3,440	4	6	252	262	.4	.6	24.4	25.4	2.3	.4	.4	3.1
1922	4,778	2	8	233	243	.1	.6	16.3	17.8	.8	.5	.3	1.6
1923	6,080	6	20	367	393	.3	1.1	20.1	21.5	2.0	.5	.5	3.0
1924	4,943	7	10	274	291	.5	.7	18.5	19.7	2.8	.6	.3	3.7
1925	4,834	9	10	115	134	.6	.7	7.9	9.2	3.7	.7	.2	4.6
1926	4,526	6	19	178	203	.4	1.3	13.1	14.8	2.7	4.7	.3	7.7
1927	4,344	4	7	78	89	.3	.5	6.0	6.8	1.8	.3	.2	2.3
1928	3,803	3	5	81	89	.3	.4	7.1	7.8	1.6	.2	.3	2.0
1929	3,687	5	2	29	36	.5	.2	2.6	3.3	2.7	.1	.1	2.9

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Open-hearth furnaces

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1907	2,987	14	14	908	936	1.6	1.6	101.3	104.5	9.3	4.0	1.1	14.4
1910	9,739	29	53	3,028	3,140	1.0	1.8	103.6	106.4	6.0	2.4	1.4	9.8
1911	10,718	18	45	1,890	1,953	.6	1.4	58.8	60.8	3.4	1.1	.9	5.4
1912	17,355	47	99	4,039	4,185	.9	1.9	77.6	80.4	5.3	1.9	1.0	8.2
1913	20,604	35	95	4,368	4,498	.6	1.5	70.7	72.8	3.4	1.4	1.0	5.8
1914	12,877	14	41	2,484	2,539	.4	1.1	64.3	65.8	2.2	1.5	.8	4.5
1915	5,969	8	20	832	860	.4	1.1	46.5	48.0	2.7	.9	.6	4.2
1916	9,654	12	37	1,458	1,507	.4	1.3	50.3	52.0	2.5	.8	.9	4.2
1917	21,457	47	86	3,187	3,320	.7	1.3	49.5	51.5	4.4	1.2	.8	6.4
1918	26,410	71	103	3,983	4,157	.9	1.3	50.3	52.5	5.4	1.4	1.1	7.9
1919	22,685	53	71	3,103	3,227	.8	1.0	45.6	47.4	4.7	1.3	.8	6.8
1920	28,823	43	70	3,164	3,277	.5	.8	37.0	38.3	3.0	.8	.5	4.3
1921	12,783	9	21	1,082	1,112	.2	.6	28.2	29.0	1.4	.4	.5	2.3
1922	19,805	22	46	1,936	2,004	.4	.8	32.6	33.8	2.2	.9	.5	3.6
1923	24,917	42	74	2,145	2,261	.6	1.0	28.6	30.2	3.4	1.1	.7	5.2
1924	21,493	32	67	1,864	1,963	.5	1.0	28.9	30.4	3.0	.9	.5	4.4
1925	22,837	25	73	1,769	1,867	.4	1.1	25.8	27.3	2.2	1.0	.5	3.7
1926	22,727	51	67	1,322	1,440	.8	1.0	20.0	21.8	4.6	1.2	.5	6.3
1927	19,143	24	60	908	992	.4	1.0	15.8	17.2	2.5	1.4	.4	4.3
1928	23,083	24	64	968	1,056	.4	.9	14.0	15.3	2.1	1.1	.3	3.4
1929	24,067	37	78	1,263	1,378	.5	1.1	17.5	19.1	3.1	.9	.4	4.4

Foundries

1907	939	1	3	179	183	0.4	1.1	63.5	65.0	2.1	0.3	1.0	3.4
1910	16,885	7	78	2,615	2,700	.1	1.5	51.6	53.2	.8	1.0	.6	2.4
1911	13,499	18	57	1,970	2,045	.4	1.4	48.6	50.4	2.7	1.0	.6	4.3
1912	23,294	23	135	4,512	4,670	.3	1.9	64.6	66.8	2.1	1.5	.8	4.4
1913	24,605	22	118	5,236	5,376	.3	1.6	70.9	72.8	1.7	1.2	.8	3.7
1914	17,634	14	61	3,432	3,507	.3	1.2	64.9	66.4	1.6	1.0	.7	3.3
1915	1,309	------	2	118	120	------	.5	30.0	30.5	------	.2	.4	.6
1916	1,231	1	6	145	152	.3	1.6	39.3	41.2	1.6	.6	.7	2.9
1917	31,805	45	101	6,810	6,956	.5	1.1	71.4	73.0	2.8	1.0	.9	4.7
1918	32,181	23	106	5,482	5,611	.2	1.1	56.8	58.1	1.5	1.0	.7	3.2
1919	24,220	15	62	4,048	4,125	.2	.9	55.7	56.8	1.2	.8	.7	2.7
1920	35,300	13	97	6,688	6,798	.1	.9	63.2	64.2	.7	.8	.8	2.3
1921	15,338	9	34	2,756	2,799	.2	.7	59.7	60.6	1.2	.7	.8	2.7
1922	22,770	12	59	4,134	4,205	.2	.9	60.5	61.6	1.1	.9	.7	2.7
1923	38,660	26	126	7,171	7,323	.2	1.2	61.8	63.2	1.4	.8	.8	3.0
1924	37,325	21	143	6,820	6,984	.2	1.3	60.9	62.4	1.1	1.1	.8	3.0
1925	35,570	27	128	6,877	7,032	.3	1.2	64.5	65.9	1.5	1.3	.9	3.7
1926	41,501	26	178	7,376	7,580	.2	1.4	59.0	60.6	1.3	1.1	.9	3.3
1927	31,136	18	106	4,769	4,893	.2	1.1	51.5	52.8	1.2	1.0	.7	2.9
1928	34,838	15	130	4,654	4,799	.1	1.2	44.5	45.9	.9	.9	.1	1.8
1929	51,930	26	248	8,836	9,151	.2	1.6	56.7	58.5	1.3	1.4	.8	3.5

Bar mills

1915	3,232	1	7	577	585	0.1	0.7	59.5	60.3	0.6	0.6	0.7	1.9
1916	3,042	4	11	783	798	.4	1.2	85.8	87.4	2.6	.5	1.1	4.2
1917	7,472	8	34	1,940	1,982	.4	1.5	86.5	88.4	2.1	1.0	1.0	4.0
1918	5,734	6	18	756	780	.3	1.0	43.9	45.2	2.1	.7	.7	3.5
1919	4,601	1	7	689	697	.1	.5	49.9	50.5	.4	.5	.7	1.6
1920	3,880	1	5	525	531	.1	.4	44.8	45.3	.5	.2	.5	1.2
1921	1,912	------	5	228	233	------	.9	39.8	40.7	------	1.0	.6	1.6
1922	3,780	7	10	392	409	.6	.9	34.6	36.1	3.7	.8	.5	5.0
1923	4,003	------	17	443	460	------	1.4	36.4	37.8	------	.7	.6	1.3
1924	4,093	2	7	285	294	.2	.6	23.2	24.0	1.0	.2	.5	1.7
1925	4,471	2	13	324	339	.2	1.0	24.2	25.4	.9	.9	.4	2.2
1926	3,042	1	10	146	157	.1	1.1	16.0	17.2	.7	.4	.3	1.4
1927	2,387	------	8	215	223	------	1.1	30.0	31.1	------	1.3	.4	1.7
1928	3,151	4	21	554	579	.4	2.2	58.6	61.2	2.5	1.2	.9	4.7
1929	3,727	2	8	215	225	.2	.7	19.2	20.1	1.1	.2	.4	1.7

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Heavy rolling mills

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1907	4,556	8	10	874	892	0.6	0.7	64.0	65.3	3.5	0.3	1.0	4.8
1910	9,442	19	57	2,167	2,243	.7	2.0	76.5	79.2	4.0	1.5	1.0	6.5
1911	12,409	9	48	1,636	1,693	.2	1.3	43.9	45.4	1.4	.9	.7	3.0
1912	16,258	20	41	2,395	2,456	.4	.8	49.1	50.3	2.3	.9	.7	3.9
1913	17,569	16	60	1,910	1,986	.3	1.1	36.2	37.6	1.7	.6	.6	2.9
1914	11,985	10	55	899	964	.3	1.5	25.0	26.8	1.5	1.0	.4	2.9
1915	7,148	10	24	596	630	.5	1.1	27.8	29.4	2.8	1.0	.3	4.1
1916	10,076	7	44	959	1,010	.2	1.5	31.7	33.4	1.4	1.3	.5	3.2
1917	20,530	30	87	1,784	1,901	.5	1.4	29.0	30.9	2.9	1.0	.5	4.4
1918	19,807	24	67	1,900	1,991	.4	1.1	32.0	33.5	2.4	.9	.5	3.8
1919	17,605	20	53	1,711	1,784	.4	1.0	32.4	33.8	2.3	1.1	.5	3.9
1920	20,787	12	34	1,638	1,684	.2	.5	26.3	27.0	1.2	.4	.4	2.0
1921	9,000	3	15	485	503	.1	.5	16.5	17.1	.6	.3	.3	1.2
1922	14,574	9	56	752	817	.2	1.3	17.2	18.7	1.2	.9	.4	2.5
1923	16,602	8	36	882	926	.2	.7	17.7	18.6	1.0	.8	.3	2.1
1924	13,162	18	39	789	846	.5	1.0	20.0	21.5	2.7	.8	.4	3.9
1925	16,553	13	50	747	810	.3	1.0	15.0	16.3	1.6	1.1	.3	3.0
1926	14,553	7	38	417	462	.2	.9	9.5	10.6	1.0	.8	.2	2.0
1927	18,171	13	41	494	548	.2	.8	9.0	10.0	1.4	.7	.3	2.4
1928	18,257	5	38	451	494	.1	.7	8.2	9.0	.6	.7	.3	1.5
1929	21,240	8	87	471	566	.1	1.4	7.4	8.9	.8	1.2	.2	2.2

Plate mills

1907	1,915	4	12	637	653	0.7	2.1	110.9	113.7	4.2	3.7	1.2	9.1
1910	3,287	7	27	602	636	.7	2.7	61.1	64.5	4.3	1.6	.7	6.6
1911	4,390	5	15	590	610	.4	1.1	44.8	46.3	2.3	1.0	.6	3.9
1912	5,128	2	25	893	920	.1	1.6	58.0	59.7	.8	2.0	.8	3.6
1913	5,430	3	25	725	753	.2	1.5	44.5	46.2	1.1	1.2	.6	2.9
1914	3,476	2	13	319	334	.2	1.2	30.6	32.0	1.1	1.0	.5	2.6
1915	42,086	1	9	121	131	.2	1.4	19.3	20.9	1.0	.6	.3	1.9
1916	4,681	3	15	436	454	.2	1.1	31.0	32.3	1.3	.7	.5	2.5
1917	6,764	4	22	766	792	.2	1.1	37.7	39.0	1.2	.9	.5	2.6
1918	9,650	8	19	1,446	1,473	.3	.7	49.9	50.9	1.7	.6	.7	3.0
1919	11,892	9	24	1,247	1,280	.3	.7	35.0	36.0	1.5	.5	.5	2.5
1920	11,928	9	23	1,147	1,179	.3	.6	32.1	33.0	1.5	.6	.4	2.5
1921	4,580	3	7	318	328	.2	.5	23.1	23.8	1.3	.3	.4	2.0
1922	6,198	2	26	581	609	.1	1.4	31.2	32.7	.6	.9	.5	2.0
1923	8,731	5	24	662	691	.2	.9	25.3	26.4	1.1	1.2	.4	2.7
1924	6,454	3	18	506	527	.2	.9	26.1	27.1	.9	.6	.5	2.6
1925	5,734	6	15	370	391	.4	.9	21.5	22.8	2.1	1.2	.4	3.7
1926	7,306	4	25	396	425	.2	1.1	18.1	19.4	1.1	1.0	.4	2.5
1927	8,550	5	19	295	319	.2	.7	11.5	12.4	1.2	.5	.2	1.9
1928	7,997	2	17	319	338	.1	.7	13.3	14.1	.5	.7	.3	1.4
1929	10,457	7	35	517	559	.2	1.1	16.5	17.8	1.3	.9	.4	2.6

Puddling mills

1917	4,129	1	10	572	583	0.1	0.8	46.2	47.1	0.5	0.6	0.6	1.7
1918	2,712	3	4	370	377	.4	.5	45.5	46.4	2.2	.4	.6	3.2
1919	1,619	-------	1	140	141	-------	.2	28.8	29.0	-------	.1	.4	.5
1920	2,007	1	10	243	254	.2	1.7	40.3	42.2	1.0	.8	.6	2.4
1923	1,620	-------	3	280	283	-------	.6	57.6	58.2	-------	1.1	1.0	2.1
1924	814	-------	4	156	160	-------	1.6	63.9	65.5	-------	1.2	1.2	2.4
1925	1,108	-------	6	166	172	-------	1.8	49.9	51.7	-------	2.8	.9	3.7
1926	1,591	1	5	204	210	.2	1.0	42.5	43.7	1.2	1.5	.8	3.5
1927	1,040	-------	-------	121	121	-------	-------	38.8	38.8	-------	-------	.9	.9
1928	1,116	1	1	133	135	.3	.3	39.7	40.3	1.8	.1	1.0	2.9
1929	504	-------	-------	52	52	-------	-------	.3	.3	-------	-------	.1	.1

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Rod mills

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1915	2,062	-------	10	229	239	-------	1.6	37.0	38.6	-------	0.7	0.5	1.2
1916	2,493	-------	16	259	275	-------	2.1	34.6	36.7	-------	1.9	.5	2.4
1917	4,951	7	23	699	729	0.5	1.5	47.1	49.1	2.8	1.4	.5	4.7
1918	3,249	5	11	350	366	.5	1.1	35.9	37.5	3.1	1.0	.6	4.7
1919	2,463	2	10	184	196	.3	1.4	24.9	26.6	1.6	1.4	.5	3.5
1920	3,729	1	9	344	354	.1	.8	30.7	31.6	.5	.5	.4	1.4
1921	2,099	-------	6	126	132	-------	1.0	20.0	21.0	-------	.7	.3	1.0
1922	2,645	1	5	196	202	.1	.6	24.7	25.4	.8	.5	.5	1.8
1923	3,224	1	10	189	200	.1	1.1	20.2	21.4	.6	1.3	.3	2.2
1924	2,828	1	7	127	135	.1	.8	15.0	15.9	.7	.7	.4	1.8
1925	2,907	2	7	146	155	.2	.8	16.7	17.7	1.4	1.0	.3	2.7
1926	2,569	2	8	119	129	.3	1.0	15.5	16.8	1.6	.7	.4	2.7
1927	2,433	1	1	84	86	.1	.1	11.6	11.8	.8	.1	.3	1.2
1928	2,582	1	5	93	99	.1	.7	12.0	12.8	.8	.9	.4	2.0
1929	2,336	1	17	130	148	.1	2.4	18.5	21.0	.9	2.6	.5	4.0

Sheet mills

1907	2,211	2	8	274	284	0.3	1.2	43.3	44.8	1.8	1.9	0.4	4.1
1910	18,501	28	52	3,310	3,390	.5	.9	59.6	61.0	2.9	.8	.6	4.3
1911	29,710	9	71	3,625	3,705	.1	.8	40.7	41.6	.7	.7	.4	1.8
1912	32,087	19	67	5,497	5,583	.2	.7	57.1	58.0	1.2	.7	.7	2.6
1913	25,938	21	67	3,717	3,805	.3	.9	47.8	49.0	1.6	.5	.6	2.7
1914	22,187	11	51	3,113	3,175	.2	.8	46.8	47.8	.9	.5	.6	2.0
1915	16,266	7	23	1,901	1,931	.1	.5	39.0	39.6	.9	.3	.5	1.7
1916	24,722	13	62	2,655	2,730	.2	.8	35.8	36.8	.6	.5	.5	1.6
1917	26,855	11	38	2,687	2,736	.1	.5	33.4	34.0	.8	.6	.5	1.9
1918	17,278	3	17	937	957	.1	.3	18.1	18.5	.3	.5	.2	1.0
1919	19,214	3	32	1,854	1,889	.1	.6	32.0	32.7	.3	.4	.4	1.1
1920	24,279	14	59	2,979	3,052	.2	.8	40.1	41.0	1.2	.7	.8	2.3
1921	15,845	5	38	1,702	1,745	.1	.8	35.8	36.7	.6	.5	.5	1.6
1922	24,391	10	66	2,951	3,027	.1	.9	40.3	41.3	.8	.8	.9	2.5
1923	29,814	14	61	2,390	2,465	.2	.7	27.6	28.5	1.0	.7	.5	2.2
1924	28,247	7	54	2,457	2,518	.1	.6	29.0	29.7	.5	.7	.5	1.7
1925	32,043	10	56	3,096	3,162	.1	.6	32.2	32.9	.6	.5	.6	1.7
1926	31,713	6	55	2,100	2,161	.1	.6	22.1	22.8	.4	.5	.3	1.2
1927	34,896	4	47	1,537	1,588	(1)	.4	14.6	15.0	.2	.4	.2	.8
1928	37,050	10	92	2,239	2,341	.1	.8	20.1	21.1	.5	.9	.3	1.8
1929	43,523	16	119	2,885	3,020	.1	.9	22.1	23.1	.7	.7	.4	1.8

Tube mills

1907	2,007	1	4	575	580	0.2	0.7	95.5	96.4	1.0	0.6	1.5	3.1
1910	9,767	3	25	1,608	1,636	.1	.9	54.9	55.9	.6	.4	.7	1.7
1911	13,676	1	53	2,080	2,134	(1)	1.3	50.7	52.0	.2	.8	.5	1.5
1912	17,080	10	60	2,154	2,224	.5	1.2	42.0	43.7	1.3	.8	.5	2.6
1913	18,909	15	72	1,586	1,673	.3	1.3	28.0	29.6	1.6	.7	.4	2.7
1914	13,906	7	39	1,195	1,241	.2	.9	28.6	29.7	1.0	.6	.4	2.0
1915	7,109	2	21	182	205	.1	1.0	8.5	9.6	.6	.6	.2	1.4
1916	11,355	2	26	425	453	.1	.8	12.5	13.4	.4	.3	.3	1.0
1917	19,819	17	51	1,967	2,035	.3	.9	33.1	34.3	1.7	.5	.4	2.6
1918	18,499	8	41	1,127	1,176	.1	.7	20.3	21.1	.9	.4	.3	1.6
1919	18,326	9	39	1,127	1,172	.2	.7	20.4	21.3	1.0	.6	.3	1.9
1920	22,666	13	71	2,166	2,250	.2	1.0	31.9	33.1	1.1	.5	.5	2.1
1921	14,622	4	35	840	879	.1	.8	19.1	20.0	.5	.5	.4	1.4
1922	19,535	6	40	1,332	1,378	.1	.7	22.7	23.5	.6	.6	.4	1.6
1923	24,766	8	54	1,292	1,354	.1	.7	17.4	18.2	.6	.6	.3	1.5
1924	22,655	14	68	1,185	1,267	.2	1.0	17.2	18.4	1.2	.6	.3	2.1
1925	25,511	10	64	1,142	1,216	.1	.8	14.9	15.8	.8	.6	.3	1.7
1926	32,089	9	95	1,524	1,628	.1	1.0	15.9	17.0	.6	.7	.2	1.5
1927	26,794	13	61	1,175	1,249	.2	.8	14.6	15.6	1.0	.4	.2	1.6
1928	22,218	6	41	899	946	.1	.6	13.8	14.5	.6	.4	.3	1.3
1929	30,760	12	83	1,613	1,708	.1	.9	17.5	18.5	.8	.7	.3	1.8

[1] Less than one-tenth of 1 per cent.

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Unclassified rolling mills

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1910	14,434	15	49	4,861	4,925	0.3	1.1	112.3	113.7	2.1	1.6	1.3	5.0
1911	21,231	16	76	3,388	3,480	.3	1.2	53.2	54.7	1.5	1.1	.7	3.3
1912	22,909	16	76	4,660	4,752	.2	1.1	67.8	69.1	1.5	1.0	.9	3.4
1913	23,382	24	84	5,051	5,159	.3	1.2	72.0	73.5	2.0	1.1	1.0	4.1
1914	22,873	11	75	3,541	3,627	.2	1.1	51.6	52.9	1.0	.8	.7	2.5
1915	4,367	2	14	475	491	.2	1.1	36.2	37.5	.9	.5	.4	1.8
1916	8,082	5	25	922	952	.2	1.0	38.0	39.2	1.2	.6	.7	2.5
1917	27,978	10	60	4,265	4,335	.1	.7	50.8	51.6	.7	.7	.7	2.1
1918	37,163	22	74	4,015	4,111	.2	.7	36.0	36.9	1.2	.5	.5	2.2
1919	25,106	14	45	2,967	3,026	.2	.6	39.4	40.2	1.1	.4	.6	2.1
1920	21,055	16	68	2,785	2,869	.3	1.1	44.1	45.4	1.5	.9	.5	2.9
1921	12,068	4	36	1,479	1,519	.1	1.0	40.9	42.0	.7	.9	.7	2.3
1922	19,382	10	59	2,416	2,485	.2	1.0	41.5	42.7	1.0	.9	.7	2.6
1923	26,357	11	92	2,830	2,933	.1	1.2	35.8	37.1	.8	1.3	.6	2.7
1924	21,664	11	77	2,193	2,277	.2	1.2	33.5	34.9	1.0	1.3	.6	2.9
1925	26,353	9	59	1,836	1,904	.1	.8	23.2	24.1	.7	.5	.4	1.6
1926	25,268	5	66	1,630	1,701	.1	.9	23.5	24.5	.4	.7	.4	1.5
1927	21,126	14	105	1,246	1,365	.2	1.7	19.7	21.6	1.3	1.3	.4	3.0
1928	23,889	11	64	1,636	1,712	.2	.6	13.8	14.5	.9	.9	.4	2.2
1929	20,940	7	103	1,397	1,507	.1	1.6	22.2	23.9	.7	1.2	.5	2.4

Fabricating shops

1907	2,081	6	12	571	589	1.0	1.9	91.5	94.4	5.8	2.9	0.8	9.5
1910	8,713	11	33	3,901	3,945	.4	1.3	149.2	150.9	2.5	1.0	1.9	5.4
1911	19,530	8	92	3,244	3,344	.1	1.6	55.4	57.1	.7	1.0	.6	2.3
1912	28,988	32	119	6,890	7,041	.4	1.4	79.2	81.0	2.1	.9	.8	3.8
1913	30,470	34	104	7,368	7,506	.4	1.1	80.6	82.1	2.2	.8	.8	3.8
1914	20,837	13	77	4,103	4,193	.2	1.2	65.6	67.0	1.2	1.0	.7	2.9
1915	3,818	3	15	471	489	.3	1.3	41.1	42.7	1.6	.6	.7	2.9
1916	4,980	7	25	703	735	.5	1.7	47.1	49.3	2.8	.7	.9	4.4
1917	23,614	21	67	4,192	4,280	.3	.9	59.2	60.4	1.8	.6	.7	3.1
1918	29,166	22	29	5,077	5,128	.3	.3	58.0	58.6	1.5	.5	.6	2.6
1919	19,407	6	27	2,752	2,785	.1	.5	47.3	47.9	.7	.3	.5	1.5
1920	17,216	14	68	2,721	2,803	.2	1.3	52.7	54.2	1.6	1.1	.6	3.3
1921	12,908	5	45	1,971	2,021	.1	1.2	50.9	52.2	.8	.7	.6	2.1
1922	16,184	14	41	3,381	3,436	.3	.8	69.6	70.7	1.7	.8	.8	3.3
1923	22,547	9	52	4,019	4,080	.1	.8	59.4	60.3	.8	.7	.7	2.2
1924	10,626	5	63	1,787	1,855	.1	1.0	28.3	29.4	.5	.8	.5	1.8
1925	15,718	4	35	857	895	.1	.7	18.2	19.0	.4	.9	.4	1.7
1926	15,467	7	64	756	827	.2	1.4	16.4	18.0	.9	1.0	.4	2.3
1927	14,523	4	25	283	312	.1	.6	6.4	7.1	.5	.4	.2	1.1
1928	12,977	3	35	466	504	.1	.9	12.0	13.0	.5	.7	.3	1.4
1929	20,516	12	95	1,488	1,595	.2	1.5	24.2	25.9	1.2	1.5	.6	3.3

Forge shops

1917	3,881	3	15	917	935	0.3	1.3	78.8	80.4	1.5	1.6	1.3	4.4
1918	6,408	4	26	1,009	1,039	.2	1.4	53.2	54.8	1.2	1.1	.7	3.0
1919	2,169	2	4	257	263	.3	.6	39.5	40.4	1.8	.3	.6	2.7
1920	2,197	-------	5	380	385	-------	.8	58.6	59.4	-------	.8	.7	1.5
1921	902	1	3	107	111	.4	1.1	39.5	41.0	2.2	1.0	.7	3.9
1922	1,514	2	8	233	243	.4	1.8	51.3	53.5	2.6	1.7	.9	5.2
1923	2,049	1	9	309	319	.2	1.5	50.2	51.9	1.0	.9	.7	2.6
1924	2,272	-------	9	567	576	-------	1.3	83.2	84.5	-------	1.5	1.2	2.7
1925	3,794	3	11	893	907	.3	1.0	78.5	79.8	1.6	.9	.8	3.3
1926	1,790	-------	7	263	270	-------	1.3	48.7	50.0	-------	.4	.7	1.1
1927	1,645	1	10	108	119	.2	2.0	21.9	24.1	1.2	1.1	.5	2.8
1928	2,691	1	7	120	137	.1	.9	16.2	17.2	.7	.8	.4	2.0
1929	6,135	3	51	458	512	.2	2.8	24.9	27.9	-------	-------	-------	----

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Wire drawing

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1910	10,370	5	84	2,323	2,412	0.2	2.7	74.7	77.6	1.0	2.6	0.7	4.3
1911	11,819	4	89	2,270	2,363	.1	2.3	59.0	61.4	.6	2.0	.6	3.2
1912	13,059	4	104	2,627	2,735	.1	2.7	67.1	69.9	.6	2.5	.7	3.8
1913	12,769	6	59	2,542	2,607	.2	1.5	66.4	68.1	.9	1.1	.7	2.7
1914	11,468	2	47	1,742	1,791	.1	1.4	50.6	52.1	.4	1.3	.5	2.2
1915	7,859	1	62	1,831	1,894	.3	2.6	77.7	80.3	.3	2.4	.8	3.5
1916	9,551	4	104	1,764	1,872	.1	3.6	61.6	65.3	.8	2.9	.6	4.3
1917	13,727	3	63	1,700	1,766	.1	1.5	41.3	42.9	.4	1.0	.6	2.0
1918	12,790	4	60	991	1,055	.1	1.6	25.8	27.5	.6	1.2	.4	2.2
1919	8,739	-------	32	626	658	-------	1.2	23.9	25.1	-------	1.0	.4	1.4
1920	13,243	2	63	1,252	1,317	.1	1.6	31.5	33.2	.3	1.7	.5	2.5
1921	9,186	4	36	527	567	.1	1.3	19.1	20.6	.9	1.4	.4	2.7
1922	13,836	3	53	837	893	.1	1.3	20.2	21.6	.4	1.3	.4	2.1
1923	14,783	2	54	919	975	.4	1.2	20.7	21.9	.3	1.2	.4	1.9
1924	11,567	-------	44	711	755	-------	1.3	20.5	21.8	-------	1.8	.3	2.1
1925	13,758	2	47	938	987	.1	1.1	22.7	23.9	.3	1.2	.4	1.9
1926	13,329	3	34	601	638	.1	.9	15.0	16.0	.5	.8	.3	1.6
1927	11,870	5	41	355	401	.1	1.1	9.9	11.1	.8	1.0	.2	2.0
1928	13,306	5	46	358	409	.1	1.2	9.0	10.3	.8	1.1	.2	2.1
1929	12,275	11	21	116	148	.4	.8	4.6	5.8	2.6	1.2	.1	3.9

Electrical department

1910	1,526	2	3	282	287	0.4	0.7	61.6	62.7	2.6	0.9	0.7	4.2
1911	2,700	3	9	356	368	.4	1.1	43.0	44.5	2.2	.9	.5	3.6
1912	3,796	6	15	523	544	.5	1.3	45.9	47.7	3.1	1.7	.5	5.3
1913	4,012	14	15	495	524	1.2	1.2	41.1	43.5	7.0	1.2	.5	8.7
1914	2,327	8	6	301	315	1.1	.9	43.1	45.1	6.9	1.0	.5	8.4
1915	613	1	1	23	25	.5	.5	12.5	13.5	3.3	.2	.1	3.6
1916	1,635	6	6	289	301	1.2	1.2	58.9	61.3	7.3	.4	.8	8.5
1917	4,385	16	16	571	603	1.2	1.2	43.4	45.8	7.3	1.3	.7	9.3
1918	4,747	10	10	485	505	.7	.7	34.1	35.5	4.2	1.1	.4	5.7
1919	4,644	13	7	483	503	.9	.5	34.7	36.1	5.6	.9	.5	7.0
1920	4,473	5	3	403	411	.4	.2	30.0	30.6	2.2	.1	.4	2.7
1921	3,025	2	3	188	193	.2	.3	20.7	21.2	1.3	.6	.3	2.2
1922	3,528	4	1	164	169	.4	.1	15.5	16.0	2.3	.1	.4	2.8
1923	4,325	5	8	215	228	.4	.6	16.6	17.6	2.3	.4	.3	3.0
1924	3,989	7	6	171	184	.6	.5	14.3	15.4	3.5	.4	.3	5.2
1925	4,011	6	5	148	159	.5	.4	12.3	13.2	3.0	.6	.3	3.9
1926	4,611	6	6	131	143	.4	.4	9.6	10.4	2.6	.3	.3	3.2
1927	5,157	9	5	119	113	.6	.3	7.7	8.6	3.5	.5	.4	4.4
1928	5,449	9	10	84	103	.6	.6	5.1	6.3	3.3	.7	.2	4.2
1929	8,348	11	21	116	148	.4	.8	4.6	5.8	2.6	1.2	.1	3.9

Mechanical department

1908	1,619	4	7	430	441	0.8	1.4	89.1	91.3	4.9	0.6	1.1	6.6
1910	15,927	18	56	2,618	2,692	.4	1.2	54.8	56.4	2.3	.9	.5	3.7
1911	17,863	13	80	3,015	3,108	.2	1.5	56.3	58.0	1.5	1.1	.7	3.3
1912	21,591	19	95	4,040	4,154	.3	1.5	62.4	64.2	1.8	1.2	.8	3.8
1913	24,009	36	103	4,972	5,111	.5	1.4	69.0	70.9	2.9	1.0	.9	4.8
1914	17,772	18	60	3,149	3,227	.3	1.1	59.1	60.5	2.0	1.0	.7	3.7
1915	5,987	3	27	573	603	.2	1.5	31.9	33.6	1.0	.7	.4	2.1
1916	16,920	9	86	2,245	2,340	.2	1.7	44.2	46.1	1.1	1.5	.6	3.2
1917	33,328	43	134	5,201	5,378	.4	1.3	52.0	53.7	2.6	1.0	.8	4.4
1918	58,002	54	162	6,054	6,270	.3	.9	34.8	36.0	1.9	1.0	.4	3.3
1919	40,609	45	83	4,483	4,611	.4	.7	36.8	37.9	2.2	.7	.5	3.4
1920	34,648	36	68	3,767	3,861	.3	.7	36.2	37.2	1.5	.6	.5	2.6
1921	25,036	21	41	1,703	1,775	.3	.5	22.7	23.6	1.7	.5	.4	2.5
1922	30,324	25	75	1,626	1,726	.3	.8	17.9	19.0	1.6	.7	.3	2.6
1923	37,449	37	102	2,045	2,184	.3	.9	18.2	19.4	2.0	1.0	.3	3.3
1924	31,331	29	80	1,855	1,964	.3	.8	17.8	18.9	1.7	.6	.3	2.6
1925	36,666	31	71	1,717	1,819	.3	.7	15.6	16.6	1.7	.7	.3	2.7
1926	38,953	32	74	1,887	1,993	.3	.6	16.1	17.0	1.6	.6	.3	2.5
1927	37,531	19	80	1,309	1,408	.2	.7	11.6	12.5	1.0	.9	.2	2.1
1928	40,957	28	65	862	955	.2	.5	7.1	7.8	1.4	.6	.2	2.1
1929	42,825	31	153	1,815	1,999	.2	1.2	14.1	15.6	1.4	.9	.4	2.7

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Power houses

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1917	4,552	7	7	210	224	0.5	0.5	15.4	16.4	3.1	1.0	0.3	4.4
1918	3,699	9	10	254	273	.8	.9	22.9	24.6	4.9	.5	.4	5.8
1919	4,093	11	2	213	226	.9	.2	17.3	18.4	5.4	.1	.2	5.7
1920	4,591	4	1	172	177	.3	.1	12.5	12.9	1.7	(1)	.2	1.9
1921	2,344	2	------	77	79	.3	------	10.9	11.2	1.7	------	.2	1.9
1922	3,361	------	5	115	120	------	.5	11.4	11.9	------	.7	.2	.9
1923	4,070	6	4	117	127	.5	.3	9.6	10.4	2.9	.4	.1	3.4
1924	4,511	5	8	157	170	.4	.6	11.6	12.6	2.2	.6	.2	3.0
1925	4,218	3	4	183	190	.2	.3	14.5	15.0	1.4	.3	.3	2.0
1926	3,446	3	3	56	62	.3	.3	5.4	6.0	1.7	.4	.1	2.2
1927	3,888	------	8	98	106	------	.7	8.4	9.1	------	.2	.1	.3
1928	2,659	------	2	23	25	------	.3	2.9	3.1	------	.6	.1	.7
1929	2,652	------	4	36	40	------	.5	4.5	5.0	------	.4	.1	.5

Yards

1907	2,618	5	10	509	524	0.6	1.2	64.8	66.6	3.8	2.6	1.1	7.5
1910	15,932	40	49	2,054	2,143	.8	1.0	43.0	44.8	5.0	1.0	.5	6.5
1911	9,085	11	43	1,336	1,390	.4	1.6	49.0	51.0	2.4	1.9	.7	5.0
1912	11,180	23	64	1,940	2,027	.7	1.9	57.8	60.4	4.1	1.4	.8	6.3
1913	11,859	28	50	1,807	1,885	.8	1.4	52.0	54.2	4.7	1.0	.7	6.4
1914	7,879	10	37	975	1,022	.4	1.6	41.2	43.2	2.5	1.4	.6	4.5
1915	3,843	------	15	417	432	------	1.3	36.2	37.5	------	1.0	.4	1.4
1916	7,853	12	56	929	997	.5	2.4	39.4	42.3	3.1	2.2	.6	5.9
1917	15,732	36	77	1,792	1,905	.8	1.6	38.0	40.4	4.6	1.7	.6	6.9
1918	16,354	33	62	1,526	1,621	.7	1.2	31.1	33.0	4.0	1.2	.6	5.8
1919	10,108	25	48	1,021	1,094	.8	1.6	33.7	36.1	4.9	1.9	.6	7.4
1920	12,087	10	33	922	965	.3	.9	25.4	26.6	1.7	1.3	.4	3.4
1921	5,840	6	22	422	450	.3	1.3	24.1	25.7	2.1	1.9	.5	4.4
1922	7,969	15	16	536	567	.6	.7	22.4	23.7	3.8	.5	.5	4.8
1923	8,381	12	35	693	740	.5	1.4	27.5	29.4	2.9	1.9	.4	5.2
1924	8,269	10	19	617	644	.4	.8	24.9	26.1	2.4	.9	.5	3.8
1925	7,683	12	24	755	791	.5	1.0	32.8	34.3	3.1	1.6	.6	5.3
1926	9,857	19	19	474	512	.7	.7	16.0	17.4	3.9	.6	.4	4.9
1927	7,198	10	19	185	214	.5	.9	8.6	10.0	2.8	.9	.2	3.9
1928	7,434	4	29	164	197	.2	1.3	7.4	8.8	1.1	1.7	.2	3.0
1929	7,830	5	24	240	269	.2	1.0	10.2	11.4	1.3	1.1	.3	2.7

Coke ovens [2]

1915	1,648	2	4	128	134	0.4	0.8	25.9	27.1	2.4	0.6	0.3	3.3
1916	2,195	5	6	150	161	.8	.9	22.7	24.4	4.6	.5	.4	5.5
1917	6,641	26	10	508	544	1.3	.5	25.5	27.3	7.8	.5	.4	8.7
1918	9,395	21	14	662	697	.7	.5	23.5	24.7	4.5	.5	.4	5.4
1919	9,022	12	10	647	669	.4	.4	23.9	24.7	2.7	.6	.4	3.7
1920	8,620	6	11	518	535	.2	.4	10.0	10.6	1.4	.7	.3	2.4
1921	5,768	2	4	182	188	.1	.2	10.5	10.8	.7	.3	.2	1.1
1922	6,554	2	1	207	210	.1	.1	10.5	10.7	.6	.2	.2	1.0
1923	8,961	7	14	416	437	.3	.5	15.5	16.3	1.6	1.1	.3	3.0
1924	7,506	9	15	254	278	.4	.7	11.3	12.4	2.4	.9	.1	3.5
1925	7,599	4	14	142	160	.2	.6	6.2	7.0	1.1	.9	.2	2.2
1926	10,745	19	22	277	318	.6	.7	8.6	9.9	3.5	.7	.2	4.4
1927	10,117	7	14	191	212	.2	.5	6.3	7.0	1.4	.5	.2	2.0
1928	11,157	8	13	171	192	.2	.4	5.1	5.7	1.4	.6	.1	2.1
1929	11,299	6	21	175	202	.2	.6	5.2	6.0	.9	1.0	.3	2.2

[1] Less than one-tenth of 1 per cent.
[2] Data cover only coke ovens operated in connection with steel works.

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Erection of structural steel

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1915	803	8	7	251	266	3.3	2.9	104.2	110.4	19.9	4.3	1.2	25.4
1916	1,011	10	3	251	264	3.3	1.0	82.7	87.0	19.8	1.7	1.7	23.2
1917	1,156	12	15	442	469	3.5	4.3	127.5	135.3	20.8	4.0	2.2	27.0
1918	1,234	10	3	364	377	2.7	.8	98.3	101.8	16.2	2.0	1.4	19.6
1919	775	5	7	214	226	2.2	3.0	86.8	92.0	12.9	1.3	1.3	15.5
1920	637	6	12	204	222	3.3	6.6	111.8	121.7	19.7	3.7	2.5	25.9
1921	573	5	4	168	177	2.9	2.3	97.8	103.0	17.5	1.1	1.7	20.2
1922	595	5	2	129	136	2.8	1.1	72.3	76.2	16.8	2.5	1.8	21.1
1923	912	3	7	234	244	1.1	2.6	85.5	89.2	6.6	1.6	1.2	9.4
1924	1,009	10	10	291	311	3.3	3.3	96.1	102.7	19.8	3.4	1.9	25.1
1925	937	9	3	188	200	3.2	1.1	66.9	71.2	19.2	2.2	1.0	22.4
1926	774	11	5	180	196	4.8	2.2	78.3	85.3	28.4	2.3	1.3	32.0
1927	816	3	7	134	144	1.2	2.9	54.7	58.8	7.4	1.1	1.0	9.5
1928	745	9	4	135	138	4.0	1.8	55.9	61.8	24.2	2.3	1.1	27.6
1929	907	12	6	198	216	4.4	2.2	72.8	79.4	26.5	1.5	1.4	29.4
	985	11	5	168	184	3.7	1.7	56.8	62.2	22.3	.9	1.3	24.5

Axle works [3]

1915	191		1	21	22		1.7	36.6	38.3		3.1	0.3	3.4
1916	372			17	17			15.2	15.2			.1	.1
1917	713			81	81			37.9	37.9			.9	.9
1918	609		3	156	159		1.6	85.4	87.0		3.9	1.1	5.0
1919	582			63	63			36.1	36.1			.7	.7
1920	743			100	100			44.8	44.8			.7	.7
1921	242	1		12	13	1.3		16.5	17.9	8.3		.5	8.7
1922	490			11	11			7.5	7.5			.1	.1
1923	774			30	30			12.9	12.9			.1	.1
1924	516	1	1	22	24	.6	.6	14.2	15.4	3.9	.2	.2	4.3
1925	436			6	6			4.6	4.6			.1	.1
1926	340		4	9	13		.4	.9	1.3		2.8	3.2	6.0
1928	191		1	1	2		1.7	1.7	3.5		.5	.3	.8
1929	1,524		6	252	258		.1	55.1	56.4		.6	.6	1.2

Car wheels

1915	389		1	25	26		0.9	21.4	22.3		0.3	0.7	1.0
1916	734	2	2	348	352	0.9	.9	158.0	159.0	5.4	1.0	2.1	8.5
1917	1,296	3	4	250	257	.8	1.0	64.3	66.1	4.6	.4	.9	5.9
1918	1,866	1		337	338	.2		60.2	60.4	1.1		.6	1.7
1919	1,619	1	11	353	365	.2	2.3	72.6	75.1	1.2	1.0	1.0	3.2
1920	1,215		4	170	174		1.0	46.7	47.7		.9	.6	1.5
1921	552	1	2	92	95	.6	1.2	56.7	58.6	3.6	.5	.7	4.9
1922	1,102			78	78			23.6	23.6			.6	.6
1923	1,099	1	1	116	118	.3	.3	35.2	35.8	1.8	.2	.8	2.8
1924	1,083	1	3	137	141	.3	.9	42.2	43.4	1.8	.3	.8	2.9
1925	931		3	69	72		1.1	24.7	25.8		1.3	.6	1.9
1926	792		3	32	35		1.2	13.3	14.5		1.6	.4	2.0
1927	552		4	17	21		2.4	10.3	12.7		3.6	.3	3.9
1928	771	1	1	7	9	.4	.4	3.0	3.9	2.6	.8	.1	3.5
1929	3,279	1	15	693	709	.1	1.5	70.5	72.1	.6	1.4	.8	2.8

[3] The 1927 record was so small that those figures were included under "unclassified."

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Docks and ore yards

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1915	115	-------	2	7	9	-------	5.8	20.3	26.1	-------	2.3	0.1	2.4
1916	195	3	2	16	21	5.1	3.4	27.4	35.9	30.8	7.3	.5	38.6
1917	353	2	1	78	81	1.9	.9	73.6	76.4	11.3	.7	1.0	13.0
1918	368	1	1	35	37	.9	.9	31.7	33.5	5.4	.3	.3	6.0
1919	352	-------	6	39	45	-------	5.7	37.0	42.7	-------	10.4	.5	10.9
1920	379	1	2	12	15	.9	1.8	10.6	13.3	5.3	2.9	.1	8.3
1921	235	-------	-------	11	11	-------	-------	15.6	15.6	-------	-------	.5	.5
1922	271	3	3	7	13	3.7	3.7	8.6	16.0	22.2	7.6	.3	30.1
1923	538	-------	3	15	18	-------	1.9	9.2	11.1	-------	3.9	.2	4.1
1924	340	-------	4	12	16	-------	3.9	11.8	15.7	-------	14.4	.3	14.7
1925	388	2	------	7	9	1.7	------	6.0	7.7	10.3	------	.3	10.6
1926	389	-------	1	8	9	-------	.1	.7	.8	-------	2.6	.3	2.9
1927	603	1	1	1	4	.6	.6	.6	1.8	3.3	.2	(1)	3.5
1928	427	-------	1	7	8	-------	.8	5.5	6.2	-------	1.9	.1	2.0
1929	1,001	1	7	19	27	.3	2.3	6.3	8.9	2.0	3.7	.2	5.9

Woven wire fence

1915	1,552	-------	10	294	304	-------	2.1	63.1	65.2	-------	1.2	0.5	1.7
1916	1,623	-------	18	180	198	-------	3.7	37.0	40.7	-------	3.0	.4	3.4
1917	1,269	-------	10	98	108	-------	2.6	25.7	28.3	-------	2.1	.4	2.5
1918	1,531	-------	5	77	82	-------	1.1	16.8	17.9	-------	1.0	.2	1.2
1919	1,336	1	4	35	40	0.2	1.0	8.7	9.9	1.5	.6	.2	2.3
1920	1,097	-------	6	48	54	-------	1.8	14.6	16.4	-------	2.9	.2	3.1
1921	1,095	-------	3	79	82	-------	.9	24.1	30.0	-------	.8	.4	1.2
1922	1,528	-------	6	85	91	-------	1.3	18.5	19.8	-------	.7	.4	1.1
1923	1,603	1	3	124	128	.2	.6	25.8	26.6	1.2	.5	.2	1.9
1924	1,301	-------	6	63	69	-------	1.5	16.1	17.6	-------	1.3	.2	1.5
1925	1,290	-------	2	105	107	-------	.5	27.1	27.6	-------	.2	.4	.6
1926	1,363	-------	6	83	89	-------	1.5	20.8	22.3	-------	.5	.3	.8
1927	1,204	-------	2	47	49	-------	.6	13.0	13.6	-------	1.0	.1	1.1
1928	1,534	1	2	57	60	.2	.4	12.4	13.0	1.3	.8	.2	2.3
1929	1,549	-------	2	47	49	-------	.4	10.1	10.5	-------	.5	.2	.7

Nails and staples

1915	1,546	1	12	181	194	0.2	2.6	39.0	41.8	1.3	1.7	0.3	3.3
1916	1,993	-------	10	236	246	-------	.2	39.5	39.7	-------	1.0	1.4	2.4
1917	2,323	1	16	184	201	.1	2.3	26.4	28.8	.9	2.1	.3	3.3
1918	1,916	-------	10	123	133	-------	1.7	21.4	23.1	-------	1.2	.2	1.4
1919	2,040	-------	8	58	66	-------	1.3	9.5	10.8	-------	.5	.1	.6
1920	2,364	-------	8	164	172	-------	1.1	23.1	24.2	-------	.8	.1	.9
1921	1,718	1	6	91	98	.2	1.2	17.7	19.0	1.2	.6	.3	2.1
1922	2,366	1	10	121	132	.1	1.4	17.0	18.5	.8	1.3	.3	2.4
1923	3,404	1	7	131	139	.1	.9	17.4	18.5	.8	1.2	.2	2.2
1924	1,939	-------	6	81	87	-------	1.0	13.9	14.9	-------	1.0	.2	1.2
1925	1,925	-------	6	88	94	-------	1.0	15.2	16.2	-------	1.6	.2	1.8
1926	2,658	-------	2	100	102	-------	.3	16.4	16.7	-------	.1	.2	.3
1927	1,424	-------	1	35	36	-------	.2	8.2	8.4	-------	.1	.1	.2
1928	1,522	2	2	44	48	.4	.4	9.4	10.5	2.6	.2	.1	2.9
1929	1,597	-------	------	29	29	-------	------	6.1	6.1	-------	------	.1	.1

Hot mills

1923	6,374	2	9	820	831	0.1	0.5	42.9	43.5	0.6	0.4	0.5	1.5
1924	5,789	1	7	634	642	.1	.4	36.6	37.1	.3	.5	.6	1.4
1925	7,773	4	19	913	936	.2	.8	39.1	40.1	1.0	.7	.6	2.3
1926	4,319	4	15	834	853	.3	1.2	64.2	65.7	3.9	1.3	1.6	6.8
1927	8,649	1	11	673	685	(1)	.4	25.8	26.3	.2	.5	.3	1.0
1928	9,749	2	10	836	848	.1	.3	28.6	29.0	.4	.2	.3	.9
1929	18,069	4	9	616	629	.1	.2	11.4	11.7	.4	.2	.2	.8

[1] Less than one-tenth of 1 per cent.

TABLE 6.—ACCIDENTS AND ACCIDENT RATES IN THE IRON AND STEEL INDUSTRY, 1907 TO 1929, BY DEPARTMENT AND YEAR—Continued

Cold rolling

Year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
1926	1,824	-------	2	211	213	-------	0.4	38.3	38.7	-------	0.8	0.4	1.2
1927	1,686	1	6	187	194	0.2	1.2	37.0	38.4	1.2	.4	.6	2.2
1928	1,837	1	3	170	183	.2	.5	32.5	33.2	1.1	.4	.4	1.0
1929	2,898	2	11	252	265	.2	1.3	29.2	30.5	1.4	1.0	.5	2.9

Unclassified

1915	21,547	16	41	2,749	2,806	0.2	0.6	42.5	43.3	1.5	0.6	0.6	2.7
1916	24,216	17	72	2,714	2,803	.2	1.0	37.4	38.6	1.4	1.4	.6	3.4
1917	71,249	65	164	8,165	8,394	.3	.8	38.2	39.3	1.8	.8	.5	3.1
1918	97,513	79	284	9,930	10,293	.3	1.0	33.9	35.2	1.6	.9	.5	2.9
1919	78,804	60	145	7,054	7,259	.3	.6	29.8	30.7	1.5	.7	.4	2.6
1920	104,741	72	261	11,208	11,541	.2	.8	35.7	36.7	1.4	.9	.5	2.8
1921	53,403	36	134	4,468	4,638	.2	.8	27.9	28.9	1.3	.8	.5	2.6
1922	79,405	39	233	6,848	7,120	.2	1.0	28.7	29.9	1.0	.8	.4	2.2
1923	95,138	52	273	9,719	10,044	.2	1.0	34.1	35.3	1.1	.9	.5	2.5
1924	93,018	66	285	8,032	8,382	.2	1.0	28.8	30.0	1.4	.9	.5	2.8
1925	132,291	45	308	10,648	11,001	.1	.8	26.8	27.7	.7	.7	.4	1.8
1926	112,826	58	306	8,325	8,689	.2	.9	24.6	25.7	1.0	.7	.3	2.0
1927	95,957	49	282	5,907	6,238	.2	1.0	20.5	21.7	1.0	.8	.3	2.1
1928	105,037	48	236	6,538	6,822	.2	.8	20.8	21.7	.9	.6	.6	2.2
1929	123,492	50	389	8,099	8,538	.1	1.1	21.8	23.0	.8	.8	.4	2.0

Accident Experience of the Various States

The data are shown, by States, since 1922 in Table 7. This table is not of very great significance but does tend to show that the influences which determine the rates in the years and States are on the whole surprisingly uniform. If the rates in any State be examined from year to year, a strong tendency to decline will be manifest.

TABLE 7.—ACCIDENT FREQUENCY AND SEVERITY RATES IN THE IRON AND STEEL INDUSTRY, 1922 TO 1929, BY STATE AND YEAR

State and year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
Alabama:													
1922	10,998	10	51	1,163	1,224	0.30	1.55	35.25	37.10	1.82	1.17	0.48	3.47
1923	11,915	7	78	1,348	1,433	.20	2.18	37.74	40.09	1.18	1.77	.87	3.82
1924	13,705	16	41	1,127	1,184	.39	1.00	27.41	28.80	2.33	1.06	.62	4.01
1925	15,244	14	46	508	568	.31	1.00	12.07	13.38	1.84	1.37	.19	3.40
1926	19,887	30	130	1,370	1,530	.50	2.18	22.95	25.63	3.02	1.56	.39	4.97
1927	14,493	12	7	809	898	.28	1.77	18.61	20.66	1.66	1.43	.36	3.45
1928	13,258	16	76	954	1,046	.4	.19	24.0	26.3	2.4	1.6	.6	4.7
1929	16,162	11	93	1,395	1,500	.2	1.9	28.8	30.9	1.4	1.4	.4	3.2

TABLE 7.—ACCIDENT FREQUENCY AND SEVERITY RATES IN THE IRON AND STEEL INDUSTRY, 1922 TO 1929, BY STATE AND YEAR—Continued

State and year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
California:													
1922	4,013	3	35	711	749	0.25	2.91	59.05	62.21	1.50	2.63	0.80	4.93
1923	3,113	3	11	597	611	.32	1.18	63.92	65.42	1.93	1.19	.75	3.87
1924	2,901	2	16	522	540	.23	1.84	59.97	62.04	1.38	1.43	1.34	4.15
1925	3,018	1	10	278	289	.11	1.11	30.70	31.92	.66	1.56	.71	2.93
1926	2,908	-------	16	825	841	-------	1.86	95.93	97.82	-------	2.09	1.20	3.29
1927	1,370	-------	4	225	229	-------	.97	54.76	55.73	-------	1.02	.91	1.93
1928	4,660	1	14	1,209	1,224	.1	1.0	86.5	87.6	.4	1.1	1.1	2.6
1929	6,360	7	39	1,221	1,267	.4	2.0	64.0	66.4	2.2	2.2	1.4	5.8
Colorado:													
1922	3,351	3	2	367	372	.30	.20	36.51	37.01	1.79	.27	.36	2.42
1923	4,164	7	13	462	482	.56	1.04	36.98	38.58	3.36	1.22	.76	5.34
1924	4,269	6	22	452	480	.47	1.72	35.29	37.48	2.81	1.52	.63	4.96
1925	4,243	3	14	592	609	.24	1.10	46.50	47.84	1.41	.93	.78	3.12
1926	4,507	2	13	668	683	.15	.96	49.48	50.59	.89	1.15	.71	2.75
1927	4,074	6	27	474	507	.49	2.21	38.78	41.48	2.95	1.75	.51	5.21
1928	3,439	2	16	502	520	.2	1.6	48.7	50.4	1.2	1.8	.6	3.6
1929	4,764	3	32	506	541	.2	2.2	35.4	37.8	1.3	2.6	.6	4.5
Connecticut:													
1922	3,778	3	22	510	535	.26	1.94	44.99	47.19	1.59	1.38	.67	3.64
1923	5,307	5	34	446	485	.31	2.14	28.01	30.46	1.88	1.59	.27	3.73
1924	5,639	6	40	522	568	.35	2.36	30.85	33.56	2.13	1.31	.43	3.87
1925	7,263	5	49	778	832	.23	2.24	35.72	38.19	1.38	.28	.35	2.01
1926	2,908	1	47	366	414	.13	5.40	42.07	47.60	.68	2.47	.72	3.81
1927	4,458	1	27	276	304	.07	1.97	20.09	22.13	.44	1.58	.34	2.36
1928	5,997	1	15	402	418	.1	.8	22.3	23.2	.3	.7	.3	1.3
1929	7,579	-------	46	449	495	-------	2.0	19.7	21.7	-------	1.7	.3	2.0
Illinois:													
1922	23,926	16	95	2,370	2,481	.22	1.32	33.02	34.56	1.34	1.00	.44	2.78
1923	40,097	39	171	3,753	3,963	.32	1.42	31.20	32.94	1.95	1.63	.55	4.13
1924	38,147	21	126	2,934	3,081	.19	1.13	26.26	27.58	1.13	.98	.21	2.32
1925	35,810	20	120	2,551	2,691	.19	1.12	23.75	25.06	1.12	1.32	.36	2.80
1926	37,574	25	114	2,916	3,055	.22	1.01	25.87	27.10	1.33	.82	.38	2.53
1927	49,576	20	124	1,611	1,755	.13	.83	10.83	11.79	.81	.76	.19	1.76
1928	30,171	14	132	1,761	1,907	.2	1.5	19.5	21.1	.9	1.5	.4	2.8
1929	47,548	16	221	3,453	3,690	.1	1.5	24.3	25.9	.7	1.8	.4	2.9
Indiana:													
1922	36,683	18	113	2,200	2,331	.16	1.03	20.05	21.24	.98	.95	.27	2.20
1923	22,887	12	67	1,746	1,825	.17	.98	25.43	26.58	1.05	.86	.33	2.34
1924	34,846	30	69	1,591	1,690	.29	.66	15.22	16.17	1.72	.75	.28	2.75
1925	32,743	25	86	2,110	2,221	.25	.88	21.48	22.61	1.53	.73	.31	2.57
1926	38,735	42	133	1,405	1,580	.36	1.14	12.09	13.59	2.17	.98	.22	3.37
1927	43,120	13	92	1,302	1,407	.10	.71	10.07	10.88	.60	.58	.19	1.37
1928	31,921	13	109	913	1,035	.1	1.1	9.5	10.8	.8	.9	.2	1.9
1929	45,384	28	152	1,777	1,957	.2	1.1	13.1	14.4	1.2	.9	.3	2.4
Kentucky:													
1922	1,396	2	10	477	489	.48	2.39	113.89	116.76	1.43	2.87	1.82	6.12
1923	2,601	5	18	899	922	.64	2.31	115.22	118.17	3.84	4.31	.87	9.02
1924	1,734	1	9	144	154	.19	1.73	27.68	29.60	1.15	1.58	.39	3.12
1925	2,550	13	15	193	221	1.70	1.96	25.23	28.89	10.20	1.83	.39	12.42
1926	3,744	3	30	273	300	.26	2.67	24.37	27.30	1.60	2.57	.25	4.42
1927	4,450	5	26	295	326	.37	1.95	22.10	24.42	2.25	1.62	.35	4.22
1928	4,909	5	30	276	311	.3	2.0	18.7	21.1	2.0	3.1	.3	5.4
1929	5,264	4	22	340	366	.3	1.4	21.5	23.2	1.5	1.5	.3	3.3
Maryland:													
1927	10,973	18	15	1,080	1,113	.55	.46	32.81	33.82	3.28	.52	.58	4.38
1928	12,149	8	17	770	795	.29	.5	21.1	21.8	1.3	.9	.4	2.6
1929	12,424	16	40	718	774	.4	1.1	19.3	20.8	2.6	1.3	.5	4.4
Massachusetts:													
1922	5,610	7	29	337	373	.41	1.71	19.90	22.02	2.48	1.64	.53	4.65
1923	5,018	4	26	230	260	.27	1.73	15.28	17.28	1.59	1.08	.57	3.24
1924	7,580	3	22	246	271	.13	.97	10.82	11.92	.79	1.55	.29	2.63
1925	6,645	1	7	126	134	.05	.35	6.32	6.72	.30	.33	.21	.84
1926	7,150	5	18	247	270	.23	.83	11.48	12.54	1.42	.78	.32	2.52
1927	7,230	5	13	229	247	.23	.60	10.56	11.39	1.38	.63	.27	2.2
1928	6,723	2	21	171	194	.1	1.0	8.5	9.6	.6	.8	.2	1.6
1929	8,940	3	38	623	664	.1	1.4	23.3	24.8	.7	.9	.6	2.2
Michigan:													
1922	3,928	6	16	916	938	.51	1.36	77.73	79.60	3.05	1.29	.86	5.20
1923	4,399	11	19	984	1,014	.83	1.44	74.57	76.84	5.00	1.05	.93	6.98
1924	2,457	4	14	583	601	.54	1.90	79.08	81.52	3.26	3.36	.90	7.72
1925	4,869	4	8	1,093	1,105	.27	.56	74.83	75.66	1.64	.70	.92	3.26

TABLE 7.—ACCIDENT FREQUENCY AND SEVERITY RATES IN THE IRON AND STEEL INDUSTRY, 1922 TO 1929, BY STATE AND YEAR—Continued

State and year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
Michigan—Contd.													
1926	5,643	3	16	1,086	1,105	0.18	0.95	64.15	65.28	1.06	0.67	0.89	2.62
1927	3,489	2	10	620	632	.19	.96	59.23	60.3	1.15	.51	.79	2.45
1928	3,124	2	3	758	763	.2	.3	80.9	81.4	1.3	.1	1.0	2.4
1929	8,683	7	56	1,805	1,868	.3	2.1	69.3	71.7	1.6	1.3	.9	3.8
Missouri:													
1922	4,676	6	12	1,632	1,650	.43	.86	116.35	117.64	2.57	1.01	1.41	4.99
1923	4,255	-------	4	903	907	-------	.31	70.74	71.05	-------	.33	.84	1.17
1924	1,284	1	8	266	275	.26	2.08	69.06	71.40	1.56	1.78	.76	4.10
1925	3,662	1	2	294	297	.09	.18	26.76	27.03	.55	.19	.34	1.08
1926	3,215	3	6	443	452	.31	.61	46.14	47.06	1.86	.68	.54	3.08
1927	2,913	1	3	268	272	.11	.34	30.67	31.12	.69	.19	.56	1.44
1928	2,934	1	2	141	144	.1	.2	16.0	16.4	.7	.1	.4	1.1
1929	4,367	6	22	716	744	-------	.2	5.5	5.7	.3	.1	.1	.5
New Jersey:													
1922	6,597	1	37	625	663	.05	1.87	31.58	33.50	.30	1.20	.55	2.05
1923	7,341	-------	47	780	827	-------	2.13	35.42	37.55	-------	2.17	.57	2.74
1924	7,175	-------	47	772	819	-------	2.18	35.87	38.05	-------	2.69	.70	3.39
1925	6,923	4	31	769	804	.19	1.49	37.03	37.71	1.16	1.46	.59	3.21
1926	7,896	4	30	568	602	.16	1.26	23.96	25.38	1.01	.92	.37	2.30
1927	7,420	6	42	331	379	.27	1.89	14.87	17.03	1.62	1.68	.30	3.60
1928	7,538	1	48	387	436	(1)	2.1	17.1	19.3	.3	1.3	.3	1.9
1929	9,403	1	74	1,002	1,007	(1)	2.6	35.5	38.1	.2	2.2	.6	3.0
New York:													
1922	9,785	11	47	1,625	1,683	.43	1.85	64.13	66.42	2.60	1.82	.99	5.41
1923	11,377	9	65	2,141	2,215	.26	1.90	62.73	64.89	1.58	1.84	.73	4.15
1924	6,903	5	51	1,107	1,163	.24	2.46	53.46	56.16	1.45	2.03	.94	4.42
1925	10,372	7	66	2,725	2,799	.22	2.12	87.58	89.92	1.35	2.35	.89	4.59
1926	9,442	7	43	1,821	1,871	.24	1.51	64.34	66.09	1.48	.90	.95	3.33
1927	8,785	5	45	884	934	.19	1.71	33.54	35.44	1.14	1.32	.73	3.19
1928	16,531	14	57	1,250	1,321	.3	1.2	25.2	26.6	1.7	1.1	.6	3.4
1929	17,963	6	84	1,553	1,643	.1	1.6	28.8	30.5	.6	1.4	.5	2.5
Ohio:													
1922	51,424	42	125	5,268	5,435	.27	.81	34.15	35.23	1.63	.66	.48	2.77
1923	77,979	39	201	5,763	6,003	.17	.86	24.63	25.66	1.00	.87	.39	2.26
1924	75,282	57	181	5,223	5,461	.25	.80	23.13	24.18	1.54	.98	.36	2.88
1925	86,820	33	150	5,059	5,242	.13	.58	19.42	20.13	.76	.53	.25	1.54
1926	92,678	48	172	5,630	5,850	.17	.62	20.25	21.04	1.03	.44	.23	1.71
1927	91,377	37	190	5,313	5,540	.13	.69	19.38	20.20	.81	.58	.32	1.71
1928	65,955	53	181	5,066	5,300	.3	.9	25.6	26.7	1.6	.8	.5	2.9
1929	96,360	40	230	4,972	5,242	.1	.8	17.2	18.1	.8	.7	.3	1.8
Pennsylvania:													
1922	102,186	60	103	8,364	8,527	.20	.34	27.28	27.82	1.17	.34	.45	1.96
1923	140,259	112	244	12,188	12,544	.27	.58	28.97	29.82	1.60	.59	1.03	3.22
1924	154,800	54	244	8,382	8,680	.12	.53	18.05	18.70	.70	.34	.30	1.34
1925	149,089	75	218	9,527	9,820	.18	.49	21.30	21.97	1.01	.45	.26	1.72
1926	196,124	77	204	7,763	8,044	.13	.34	13.17	13.64	.79	.09	.20	1.08
1927	146,595	103	239	6,727	7,069	.23	.54	15.30	16.07	1.41	.53	.31	2.25
1928	147,455	93	212	5,066	5,300	.2	.5	14.5	15.2	1.3	.5	.3	2.1
1929	177,191	67	242	8,415	8,724	.2	.5	15.8	16.4	.8	.4	.3	1.5
Tennessee:													
1922	1,543	-------	4	220	228	-------	.86	47.52	48.38	-------	1.49	.69	2.18
1923	2,258	9	19	437	465	1.33	2.80	64.50	68.63	7.97	2.26	1.03	11.23
1924	1,503	3	6	77	86	.67	1.33	17.08	19.07	3.99	1.60	.25	5.84
1925	1,256	1	2	196	199	.27	.53	52.02	52.82	1.59	1.67	.69	3.95
1926	1,139	1	-----	32	33	.30	------	9.41	9.71	1.75	-----	.13	1.88
1927	1,354	1	1	114	116	.25	.25	28.07	28.57	1.48	.44	.48	2.40
1928	1,063	-------	4	65	69	-------	1.3	20.4	21.6	-------	.9	.4	1.3
1929	1,819	1	7	193	201	.2	1.3	35.4	36.9	1.1	1.5	.9	3.5
Washington:													
1922	534	-------	6	80	86	-------	3.75	49.95	53.70	-------	5.99	.59	6.58
1923	2,258	-------	1	77	78	-------	.42	32.09	32.51	-------	.13	.50	.63
1924	1,503	-------	2	66	68	-------	1.11	36.50	37.61	-------	1.49	1.49	.88
1925	1,256	2	3	181	186	.55	.83	49.89	51.27	3.31	1.27	1.15	5.73
1926	1,348	1	6	148	155	.25	.15	37.00	38.30	1.48	.96	.48	2.92
1927	763	-------	2	69	71	-------	.87	30.17	31.04	-------	1.57	.58	2.15
1928	942	-------	2	84	86	-------	.7	29.7	30.4	-------	.5	.6	1.0
1929	678	-------	2	122	124	-------	1.0	60.0	61.0	-------	.3	1.0	1.3

[1] Less than one-tenth of 1 per cent

TABLE 7.—ACCIDENT FREQUENCY AND SEVERITY RATES IN THE IRON AND STEEL INDUSTRY, 1922 TO 1929, BY STATE AND YEAR—Continued

State and year	Full-year workers	Number of cases				Frequency rates (per 1,000,000 hours' exposure)				Severity rates (per 1,000 hours' exposure)			
		Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total	Death	Permanent disability	Temporary disability	Total
West Virginia:													
1922	2,702	2	6	592	600	0.24	0.74	73.03	74.01	1.48	0.84	0.85	3.17
1923	9,336	8	13	749	770	.29	.46	26.74	27.49	1.71	.54	.33	2.58
1924	4,613	7	18	806	831	.51	1.30	58.24	60.05	3.03	1.53	1.70	6.26
1925	7,964	13	14	537	564	.54	.59	22.48	23.61	3.26	.67	.28	4.21
1926	14,124	12	30	1,306	1,348	.28	.71	30.87	31.86	1.70	.41	.35	2.46
1927	12,414	15	21	1,279	1,315	.40	.56	34.34	35.30	2.42	.56	.56	3.54
1928	13,938	8	39	1,874	1,921	.2	.9	44.8	45.9	1.2	.8	.6	2.6
1929	21,760	14	32	985	1,031	.2	.5	15.1	15.8	1.3	.4	.3	2.0
Wisconsin:													
1922	5,441	-------	20	790	810	-------	1.23	48.40	49.63	-------	1.39	.73	2.12
1923	4,264	3	17	708	728	.23	1.33	55.34	56.90	1.41	1.23	.78	3.42
1924	8,321	5	47	1,275	1,327	.20	1.88	51.08	53.16	1.20	1.57	.68	3.45
1925	6,089	2	34	1,121	1,157	.13	2.18	72.02	74.33	.77	2.11	.81	3.69
1926	10,481	6	66	1,214	1,286	.19	2.10	38.66	40.95	1.14	1.76	.55	3.45
1927	3,992	4	26	641	671	.33	2.17	53.52	56.02	2.00	1.66	.59	4.25
1928	2,604	-------	15	595	610	-------	1.9	76.2	78.1	-------	1.3	.8	2.2
1929	7,353	3	48	1,459	1,510	.1	2.2	66.1	68.4	.8	1.8	1.0	3.6

Safety Code for Industrial Lighting

A REVISION of the "Code for lighting factories, mills, and other work places," prepared under the sponsorship of the Illuminating Engineering Society, has been officially approved as American standard by the American Standards Association.

The code is described as "A guide for factory owners and operators in their efforts to improve lighting conditions in their factories. It makes available authoritative information for legislative bodies, factory boards, industrial commissions, and others who are interested in enactments, rules, and regulations for better lighting."

The relation of suitable illumination and accident reduction is pointed out. According to the statement of a prominent insurance official, there is good reason to assume that defective vision or unsatisfactory lighting installations were contributing factors in over 4,000 fatal and 560,000 lost-time nonfatal industrial accidents during 1928. This is calculated to mean a loss to the industry of the services of 35,000 men throughout the entire year from nonfatal accidents alone; inclusion of the fatal accidents, using the accepted actuarial method of evaluating these, brings the total loss to 125,000 men annually.

Elimination of accidents due to insufficient or improper lighting is asserted to be simply a question of purchasing the proper equipment, installing and operating it under competent direction. Aside from the reduction of accidents and the corresponding decrease in compensation insurance cost, increased production and improved quality of the product are listed as substantial financial arguments for proper illumination.

Part II of the code describes the measurement of illumination, recommended levels for industrial interiors and how to maintain the proper intensity, avoidance of glare, and regulations for correct electrical wiring, while Part III consists of suggested minimum regulations to be established by State authorities.

Industrial Accidents, New Hampshire, 1929–30

THE eighteenth biennial report of the Bureau of Labor of New Hampshire, for the fiscal period ending June 30, 1930, contains tabulations of accidents to minors under 18 years of age, which totaled 182 for the two years. Tabulations are also given of all fatal and severe industrial accidents reported during the period, by cause and by industry. Figures from the latter are presented in the following table:

FATAL AND SEVERE INDUSTRIAL ACCIDENTS IN NEW HAMPSHIRE, JULY 1, 1928, TO JUNE 30, 1930, BY INDUSTRY

Industry	1928–29		1929–30	
	Fatal	Severe	Fatal	Severe
Automobiles, vehicles, and repairs		45		34
Electrical		1		
Food products		22		22
Iron and steel products		141	1	142
Laundry		9		6
Leather products	1	151	1	175
Light, heat, and power	4	59		20
Miscellaneous	1	119		101
Paper and pulp products	6	675	5	458
Stone and clay products		104		76
Textile products	1	506	2	525
Wood products		431	2	444
Mercantile	2	95	2	88
Buildings, contracting, and engineering		186	2	264
Farms		32		22
Hotels, restaurants, and institutions	1	40		33
Total	16	2,616	15	2,410

Fatal Accidents in Erie, Pa.

ACCORDING to a study by the Manufacturers' Association of Erie, Pa., of the accident records for 1930, a total of 68 fatal accidents occurred in the city of Erie during the year.

Traffic accidents were responsible for the largest number, resulting in 30 deaths, as compared with 26 for 1929. Home accidents accounted for 28, as compared with 22 for 1929. Industrial accidents are classed in two groups—business accidents, with six fatalities, and manufacturing accidents, with four fatalities. The six fatal accidents charged to business are described as: Coal wagon driver, hit by train; lineman, fall from pole; laborer in scrap-iron yard, hernial injury resulting fatally; carpenter, hit by falling acetylene-gas tank; painter, fall of ladder; roofer, fall of platform. Two of the four deaths in the manufacturing industry were caused by infection resulting from minor injuries, one by contact with high voltage electric circuit, and one by being caught under a car of coal while unloading.

The association praises the safety movement conducted by the department of labor and industry and other departments of the State of Pennsylvania and the efforts of the National Safety Council, but emphasizes that, though much has been done, there is much more to do, as shown by the record for this city of 120,000 inhabitants, because many of these accidents could have been prevented.

WORKMEN'S COMPENSATION

Recent Compensation Reports

Alabama

A 10-YEAR statistical review of the workmen's compensation division of the Bureau of Insurance of Alabama, covering the years 1920 to 1929, inclusive, has been issued in mimeograph form.

A compilation of accidents and compensation cost, extracted from the report, is presented in the following table. The amounts of compensation shown for 1920, 1921, and 1922 represent only compensation and funeral benefits, and do not include any medical expenses, while the amounts shown for the years 1923 to 1929 include medical benefits in compensable cases.

COMPARISON OF ACCIDENTS REPORTED AND COMPENSATION COST IN ALABAMA, 1920 TO 1929, BY YEARS

Year	Number of accidents reported		Amount of compensation paid	Year	Number of accidents reported		Amount of compensation paid
	Fatal	Total			Fatal	Total	
1920	186	6,158	[1] $998,799.77	1925	259	7,580	$1,601,733.00
1921	144	4,299	[1] 718,615.15	1926	292	7,821	1,705,370.07
1922	231	5,769	[1] 821,329.44	1927	195	7,162	1,514,458.21
1923	243	8,336	1,199,577.00	1928	153	6,691	1,421,182.74
1924	214	7,661	1,438,065.00	1929	155	7,015	1,365,469.58

[1] Medical benefits not included.

Idaho

THE seventh report of the Idaho Industrial Accident Board, covering the period from November 1, 1928, to October 31, 1930, shows that 16,375 claims were received during the two years and that the board passed on 16,251 claims, consisting of 126 fatal, 1 permanent total, 705 permanent partial, and 14,847 temporary total cases, all compensable, and 572 rejected claims. A time loss of 270,915 days was involved in the compensated cases. Awards were made of $1,381,061.06 for compensation and $293,015.70 for medical expense, a total of $1,674,076.76. Tables show the distribution of this total as $174,873.38 for self-insuring employers, $729,669.11 for the State insurance fund, and $769,534.27 for other insurance carriers. The medical expense stated does not include cost of medical treatment under hospital contracts, which was provided in approximately 45 per cent of the closed cases.

It is pointed out that the time required for the settlement of claims was reduced one-fourth during the second year. The average number of days between the date of application for a hearing and the date of the hearing was 53.97 in 1929 and 42.97 in 1930, and the average num-

ber of days between a hearing and the decision was 43.40 in 1929 and 28.62 in 1930.

A comparison of the number of claims filed and closed each fiscal year, 1918 to 1930, with compensation and medical expense awards, is presented in the following table:

NUMBER OF CLAIMS FILED AND CLOSED YEARLY IN IDAHO, WITH AMOUNT OF COMPENSATION AND MEDICAL COSTS, 1918 TO 1930

Year	Claims		Awards		
	Filed	Closed	Compensation	Medical [1]	Total
1918	3,849	3,082	$152,730.51	$17,360.74	$170,091.25
1919	4,087	3,887	389,540.60	48,256.73	437,797.33
1920	5,450	5,086	586,863.13	70,604.37	657,467.50
1921	4,547	5,061	474,459.23	106,392.27	580,851.50
1922	4,627	4,163	480,239.52	104,133.91	584,373.43
1923	6,310	6,007	614,767.04	106,925.10	721,692.14
1924	6,401	6,653	697,263.58	96,586.40	793,849.98
1925	6,694	6,547	587,265.93	107,457.03	694,722.96
1926	7,424	7,392	608,771.25	111,978.16	720,749.41
1927	7,839	8,160	666,879.66	144,058.85	810,938.51
1928	7,684	7,558	672,978.37	137,513.07	810,491.44
1929	8,026	7,729	613,046.97	132,595.09	745,642.06
1930	8,349	8,541	768,014.09	160,420.61	928,434.70
Total	81,287	79,866	7,312,819.88	1,344,282.33	8,657,102.21

[1] Medical costs under hospital contracts not included.

New Hampshire

IN THE eighteenth biennial report of the New Hampshire Bureau of Labor for the fiscal period ending June 30, 1930, the labor commissioner strongly recommends the enactment of an adequate compensation law, eliminating the court system of administration and providing definite settlement of compensation for industrial injuries, so as to place New Hampshire on a par with the other New England States.

It is pointed out that at the last two sessions of the legislature the proposed legislation for that purpose was rejected, although agreed to at a conference between manufacturers and organized labor and reported favorably by the judiciary committee. Provisions advocated in the report include the establishment of an industrial accident board to administer the law, compensation payment of at least 66⅔ per cent of the wages of the injured worker, payment of necessary medical expenses, a waiting period of not more than one week, a classified list of injuries, and arrangement for insurance of compensation risks.

Reports received during the two fiscal years under the present law show occurrence of accidents and amounts paid on account of these, as follows:

NUMBER OF ACCIDENTS REPORTED AND AMOUNTS PAID IN NEW HAMPSHIRE, 1928-29 AND 1929-30

Year	Plants	Accidents				Amount paid			
		Fatal	Severe	Slight	Total	Compensation	Medical	Hospital	Total
1928-29	666	16	2,616	519	3,151	$275,436.50	$56,621.16	$22,770.88	$354,828.54
1929-30	662	15	2,410	462	2,887	254,747.87	62,549.17	20,978.50	338,275.54

South Dakota

THE thirteenth annual report of the South Dakota Industrial Commissioner covers the experience under the workmen's compensation act of the State for the 12 months ending June 30, 1930.

The total number of accidents reported during the year was 6,120, an increase of 10.9 per cent over the preceding year. Compensation payments, however, decreased 2.3 per cent, resulting in a total of $181,630.59. A 4.2 per cent reduction was experienced in medical and hospital relief, which aggregated $89,857.24 for the year. Under the usual policy of the department, nearly all disagreements were settled without the formality of hearings, to save expense to the State as well as to the contending parties. Eighteen hearings and review hearings were held, at a cost of $55.11 per case, but the average administrative cost was held to 87.77 cents per claim filed, with a total of $5,371.73. In addition, $2,291.28 was paid to injured employees of the State coming within the jurisdiction of the department.

The report includes recommendations for increases in compensation benefits for fatal and total disability cases, now limited to $3,000, which is lower than in most States. It is suggested that gradual increases be made from time to time, to avoid placing too great a burden on production costs at one time. It is also advocated that the medical and hospital relief, now limited to $100 for each class of service, be increased $100, subject to approval of the commissioner, in extreme cases where additional medical or hospital services may be necessary.

One of the tabulations in the report shows the number of injuries in each group of occupations, under the special classification used by the commissioner's office, with the average daily wages for each group.

NUMBER OF INJURIES REPORTED AND AVERAGE DAILY WAGES, IN SOUTH DAKOTA, YEAR ENDING JUNE 30, 1930, BY OCCUPATION

Employment	Number of accidents	Daily wages	Employment	Number of accidents	Daily wages
Bakers	39	$4.09	Mechanics	479	$4.84
Biscuit manufacturers	23	3.07	Miners	468	4.62
Blacksmiths	22	5.61	Miscellaneous	509	4.40
Bricklayers	20	7.50	Nurses and doctors	10	3.62
Bridge construction	9	5.08	Plumbers	57	6.12
Butchers	48	5.06	Painters	27	5.75
Clerks and bookkeepers	183	3.63	Policemen	9	4.48
Creameries	117	4.15	Produce plants	92	3.52
Carpenters	109	6.17	Printers	55	4.73
Construction work	86	6.23	Pilots	3	6.66
Cooks and chefs	74	3.66	Quarry work	77	5.31
Dairies	9	4.68	Road work	126	5.10
Dry cleaners	5	4.21	Railroads	75	4.50
Dishwashers	28	2.16	Salesmen	79	5.92
Engineers	22	5.79	Sugar refining	72	5.55
Electricians	28	5.13	Threshing	100	4.98
Firemen	25	4.59	Truck drivers	292	4.21
Farming	210	2.91	Teamsters	44	3.63
Glaziers	10	5.43	Tractor operators	29	5.19
Gas and oil stations	59	4.39	Teachers	6	4.54
Grain elevators	47	4.44	Tinners	25	4.76
Ice labor	96	3.91	Packing plants	473	3.73
Implement works	56	4.34	Telephone workers	109	3.63
Janitors	43	3.71	Utilities	388	5.24
Lumbering	134	3.79	Volunteer firemen	11	4.20
Laundries	21	3.09	Well drillers	17	5.96
Laborers	839	4.31	Welders	7	6.08
Machinists	68	4.66	Waitresses	49	2.31

LABOR LAWS AND COURT DECISIONS

Merchant Marine Act Applicable to Stevedore Injured on Foreign Ship

THE Supreme Court of the United States recently held that an American stevedore injured while engaged in unloading a private foreign ship in American waters was covered by the merchant marine act. (Uravic *v.* Jarka Co., 282 U. S. 234.) This decision by the highest court in the land reversed a judgment rendered by the courts in New York State.

The original action was brought in the State courts of New York by the administratrix of the estate of the deceased employee, Anton Uravic. Uravic was an American citizen employed as a stevedore by the F. Jarka Co., a Delaware corporation. On July 13, 1926, Uravic was helping to unload a German vessel in New York Harbor, when he was injured through the negligence of a fellow worker. Section 33 (as amended by an act of June 5, 1920, 41 Stat. 988–1007) of the merchant marine act provides that—

> Any seaman who shall suffer personal injury in the course of his employment may, at his election, maintain an action for damages at law, with the right of trial by jury, and in such action all statutes of the United States modifying or extending the common-law right or remedy in cases of personal injury to railway employees shall apply; and in case of the death of any seaman as a result of any such personal injury the personal representative of such seaman may maintain an action for damages at law with the right of trial by jury, and in such action all statutes of the United States conferring or regulating the right of action for death in the case of railway employees shall be applicable. Jurisdiction in such actions shall be under the court of the district in which the defendant employer resides or in which his principal office is located.

The Supreme Court of the United States in a previous case, International Stevedoring Co. *v.* Haverty, 272 U. S. 50, had decided that stevedores came within the benefits conferred by section 33 of the merchant marine act. The main question raised in the case under consideration was whether the statute applied to a stevedore working on a foreign vessel, or, in particular, a vessel flying the German flag. The stevedoring company argued that the act did not apply; that whenever any provision was to apply to foreign vessels it was expressly stated, and that Congress, if it had intended the act to apply, would not have left such a regulation to be implied. The petitioners on behalf of the administratrix, on the other hand, contended that section 33 of the act was designed to affect the relationship of employer and employee, and that it did not affect vessels as such.

Mr. Justice Holmes delivered the opinion of the court and stated that the language of the statute was general, and that the right is given "any seaman," which right would also cover stevedores. "There is strong reason," the court said, "for giving the same protection to the person of those who work in our harbors when they are

working upon a German ship that they would receive when working upon an American ship in the next dock, as is especially obvious in the case of stevedores who may be employed in unloading vessels of half a dozen different flags in turn."

The court, in answering the contention that stevedores have their rights only by an artificial extension of the word "seamen" and that a seaman upon a German vessel would not be given the rights claimed said—

> Perhaps it would be a sufficient answer to the objections that, while the section 33 is construed to give the rights of seamen to stevedores, it does not say or mean that stevedores are to be regarded as seamen on the particular vessel upon which for the moment they happen to be at work. They simply are given the rights of seamen and, as they are American workmen, they have the rights of American seamen as well on German as on American ships.

The judgment of the New York court was therefore reversed.

Power of North Carolina Industrial Commissioner to Compel Testimony of Witnesses

THE North Carolina Supreme Court has upheld the power of the State industrial commissioner to punish for contempt a duly sworn witness who refuses to testify in proceedings before him. (In re Hayes, 200 N. C. 133, 156 S. E. 791.)

This case resulted from the refusal of a physician to answer a question propounded by the chairman of the North Carolina Industrial Commission, who thereupon adjudged the doctor in contempt of court. The physician was arrested and held in custody by the sheriff upon an order made by the chairman of the board. The case in which the physician was to testify involved the claim of an employee to compensation for injuries received while in the course of his employment. At a hearing held in behalf of the employee the physician, Dr. R. B. Hayes, was present as a witness. The doctor had attended the employee at the time he was injured and had also filed his report of the case with the commission. He was therefore a material witness. After the doctor had been sworn and testified, he was examined by the chairman of the board, who presided at the hearing. The commissioner ruled that there was but one question to be decided by him—whether or not the condition of the employee at the date of the hearing was the result of the accident. He thereupon attempted to interrogate the physician, who refused to answer unless he received a fee as an expert witness. The arrest and incarceration of the doctor followed. He petitioned the Superior Court of Orange County, N. C., for release, but this court held that he was not entitled to be discharged from the imprisonment to which he had been committed by the chairman of the board. An appeal was subsequently taken by Doctor Hayes to the Supreme Court of North Carolina. The main question in the case, on appeal to the supreme court, was whether the chairman of the North Carolina Industrial Commission had the power to adjudge the doctor in contempt and imprison him.

The supreme court reviewed briefly the creation of the industrial commission, and added that "it is primarily an administrative agency of the State, charged with the duty of administering the provisions of

the North Carolina workmen's compensation act." (Ch. 120, Acts of 1929.) Power is expressly conferred—

To subpœna witnesses for either party to a cause, pending before said commission, to attend and testify at a hearing before the full commission or before any member thereof. A witness, when a subpœna has been duly served on him, is required to attend the hearing, and to testify, after he has been duly sworn. His answers to questions propounded to him at the hearing constitute evidence from which the commission or the commissioner presiding at the hearing finds the facts upon which the award is made. Without such evidence, when the facts are in dispute, neither the full commission nor the commissioner can perform the duties imposed by the statute. If a witness in attendance at a hearing, after having been duly sworn, can refuse to answer a question propounded to him, which is pertinent to the matters in dispute between the parties, with impunity, then it is manifest that the North Carolina Industrial Commission, created by statute to administer the provisions of the North Carolina workmen's compensation act, and to determine the rights and liabilities of employers and employees, subject to its exclusive jurisdiction under the provisions of the act, is without adequate power to perform its duties prescribed by statute, to the people of this State and to the parties to a cause pending before the said commission.

While a provision is made in section 54 (c) of the workmen's compensation act for the superior court to enforce any attendance and testimony of witnesses, etc., yet the court said that—

This provision is clearly not adequate for a situation such as that disclosed by the record of the hearing at which the petitioner herein, upon the facts found by the commissioner and set out by him in the record, was adjudged in contempt and punished therefor. Under this provision, in proper cases, the superior court has the power to aid the commission in procuring the attendance of witnesses at hearings before the commission or before any member or deputy thereof. It does not, however, by its express terms, or by implication, deprive the commission or any member thereof, while conducting a hearing as required by statute, of the power to compel a witness, in attendance at said hearing, after having been duly sworn, to testify.

The courts of North Carolina and of other States have uniformly held that "the power to punish for a contempt committed in the presence of the court is inherent in the court, and not dependent upon statutory authority." Without regard as to whether the North Carolina Industrial Commission is a court or not (much relied upon by the physician in the negative) the supreme court said that—

We are of the opinion that the commission or any of its members, when conducting a hearing for the purpose of deciding questions upon which the rights and liabilities of an employer and an employee, under the North Carolina workmen's compensation act, are to be determined by the commission or by one of its members, has the power to adjudge a witness who has deliberately and persistently refused to answer a question propounded to him in contempt, and to punish such witness for such contempt by fine or imprisonment.

Hearings before an industrial commission are in their nature judicial proceedings, and upon the contemptuous refusal of a witness to testify the court said that: "The commission or commissioner presiding at the hearing has the power to adjudge the witness in contempt and to punish for such contempt, within the limitations prescribed by statute."

Although the question raised by the doctor, relative to the right of refusing to testify without receiving the fee of an expert witness, was not presented to the supreme court, yet this court, in passing, said that, while the question had never been decided by that court, it had been presented and decided by courts in other jurisdictions. In a few cases the court observed that a witness can not be adjudged in contempt upon his refusal to give testimony unless he received the

expert fee, yet the better opinion was that an expert summoned to testify who refused to answer questions without compensation other than his witness fees is in contempt.

The judgment of the superior court was therefore affirmed.

Injury During Noon Hour Held Compensable in Tennessee

AN INJURY to an employee falling to the floor in the employer's building just after noon hour while watching the employees play basket ball "arose out of and in the course of the employment," according to a recent decision of the Supreme Court of Tennessee. (Kingsport Silk Mills *v.* Cox, 33 S. W. (2d) 90.)

From the facts in the case it appears that on October 21, 1929, Virgie Cox, an employee of the Kingsport Silk Mills, fell onto the floor of the main building while watching the employees engage in a basket-ball game during the accustomed lunch and recreation period. The game was being played by permission of the employer and was encouraged by him as a means of recreation for the employees during the noon hour. It appeared that the floor was slippery, due to its smooth surface, and that the fall was purely accidental.

A petition was filed by the employee for compensation under the Tennessee workmen's compensation act in the chancery court of Sullivan County, and this court rendered a decree awarding compensation. The Kingsport Silk Mills thereupon appealed the case to the Tennessee Supreme Court, where the decree awarding compensation was affirmed. The supreme court found that the lower court was correct in holding that the accident arose out of and in course of the employment, and that by reason of the injury in the breaking of the left thigh joint the employee was permanently and totally incapacitated from working at any occupation which would bring her an income.

The supreme court stated that the underlying principle of the case is stated in Bradbury's Workmen's Compensation (3d ed.) 524, as follows:

> The relation of master and servant, in so far as it involves the obligation of master to protect the servant, is not suspended during the noon hour, where the master expressly, or by fair implication, invites his servants to remain on the premises in the immediate vicinity of the work.

The court cited a leading Kansas case (Thomas *v.* Procter & Gamble Mfg. Co., 104 Kan. 432, 179 Pac. 372), in which it was held that a 17-year-old girl was entitled to recover compensation for an injury received during the half-hour intermission at noon. In this case the employee, after eating lunch, was injured while engaged with other employees in the customary practice, known to and approved by the employer, of riding on a truck drawn by a fellow employee.

The Tennessee Supreme Court, in comparing the facts in the two cases, however, stated that the rule would be different "where, at such time, an employee is injured while engaged in some forbidden act, or while in a place where she has no right to be."

The decision of the lower court awarding compensation was therefore affirmed.

SMALL LOANS

Cost of Credit to the Small Borrower

Types of Small-Loan Agencies

THE results of a study of the whole small-loans field, made under the auspices of the Twentieth Century Fund, are given in a recent book, Financing the Consumer, by Evans Clark.

The agencies operating in the small-loans field include the following nine groups:

(1) The unlicensed lenders, i. e., all loan companies operating without a license and without any public regulation. This group includes not only the "loan sharks" but also concerns charging reasonable rates but operating in States having no regulatory law. These lend on the security of wage assignments, chattel mortgages, automobiles, comaker notes, etc.

(2) Pawnbrokers, making loans on the security of jewelry and other valuables left on deposit.

(3) Personal finance companies, which are licensed agencies making loans of $300 or less, under the authority of such statutes as the uniform small-loans law. Most of their business is done on the security of chattel mortgages, although they sometimes take wage assignments as security.

(4) Industrial banks (such as Morris Plan banks), which combine a small-loan business with the sale of investment certificates on the installment plan. Their loans are usually made on the security of comaker notes.

(5) Personal-loan departments of commercial banks, lending on the security of comaker notes.

(6) Credit unions—cooperative credit associations lending only to members, usually on the member's shares or on an indorsed note.

(7) Remedial loan societies, usually organized on a semiphilanthropic basis and doing a limited-dividend small-loan business, on chattels, notes, or pledges.

(8) Axias—unlicensed and unchartered voluntary savings and loan societies, usually among foreign groups, which make loans on indorsed notes and shares.

(9) Employers' loan organizations, set up by employers to supply credit to their employees.

The report estimates that together these small-loan agencies make loans of about $2,592,500,000 a year to some 14,350,000 borrowers, the proportion of loans made by each type being as follows:

	Per cent
Unlicensed lenders	28. 9
Pawnbrokers	23. 2
Personal finance companies	19. 3
Industrial banks	13. 9
Commercial banks	7. 3
Credit unions	2. 4
Remedial loan societies	2. 3
Axias	1. 9
Employers' plans	. 8
Total	100. 0

Something of the importance of these groups is indicated by the figures cited, showing that, measured in terms of invested capital, the consumer credit agencies rank with the iron and steel, lumber, and automobile industries.

A spectacular expansion is now taking place in the small-loans business, but the author points out that nevertheless "the demand for credit far outruns the present available supply, presaging a great expansion of this business in the future." The need for small credit is shown by the fact that it is estimated that in New York City one of every two families borrows from small-loan agencies every year.

Rates Charged by Small-Loan Agencies

It is pointed out that a large proportion of the customers of the small-loan companies are driven to borrow because of dire distress, and their power to bargain "is reduced to a minimum by the pressure of their needs." The limited number of such agencies still further restricts the borrower's choice and bargaining power. "The typical small borrower has not the financial leeway that would enable him to 'shop around' for a low-priced loan; nor are there usually enough places in which to shop. He must take what he can get at the only agency he knows about."

Also, he is at a distinct disadvantage from the fact that the methods of calculation of interest and the various charges imposed are so subtle and so complicated that "probably not one out of a thousand buyers or borrowers has the slightest idea of the actual annual rate he is charged for his credit—let alone how the rates he pays compares with those of other agencies."

How much conscious deception is practiced upon the borrower the author does not attempt to estimate, but he points out: "That borrowers are widely deceived is hardly open to doubt." Thus, "character loans" at 6 per cent may be advertised and sound very attractive to the prospective borrower, if he does not know that 6 per cent on the full amount for the whole period of the note is deducted in advance and that on a $100 loan he has the use of but $94 while he pays part of this back each week or month, so that each month he has paid the full interest but has the use of a constantly decreasing amount. Often, also, there are concealed charges, as for "investigation," etc., which bring up the cost. Or the loan may run only for 10 months but be discounted on the basis of a full year.

The need of a uniform basis of calculation is emphasized, which will show the borrower "the rate per year he has to pay for the money of which he has the actual use."

The annual rates charged by the various types of small-loan agencies are given in the following table:

ANNUAL RATES OF INTEREST CHARGED BY SPECIFIED TYPES OF SMALL-LOAN AGENCIES

Agency	Usual charge	Range of charges
	Per cent	*Per cent*
Credit unions	12.0	6.0- 18.0
Personal-loan departments of commercial banks	18.1	9.4- 22.6
Industrial banks	17.3	17.3- 34.4
Remedial loan societies	26.9	12.0- 36.0
Axias	28.5	----------
Personal finance companies	42.0	30.0- 42.0
Pawnbrokers	36.0	12.0-120.0
Unlicensed lenders	----------	240.0-480.0

One important factor is not considered in these rates, i. e., that the borrower who pays the lender's charges in advance has not the use of that money meanwhile. If he obtains the loan from a discount company he pays the whole interest in advance, and he has to pay it even if he should be able to pay off the principal before the end of the term of the loan, for discount companies do not often rebate any interest under these conditions. On the other hand, if the borrower obtains his loan at a pawnshop he does not pay the interest until he redeems his pledge, and therefore has the use of the interest money during the full period of the loan. The credit union laws and the uniform small-loans laws provide that the interest shall be calculated each month and only on the unpaid balance and that no other fees may be levied. Thus, a man who makes a loan from a personal finance company, at the rate of 3½ per cent interest a month, of $100 to be repaid in monthly installments over a period of a year, does not pay $42 in interest, as he would if his note were discounted in advance; he pays $22.75, because he is charged interest each month only on the amount which still remains unpaid. A man borrowing the same amount from a credit union at the common credit union rate of 1 per cent per month would actually pay, not $12, but $6.50, for the use of the money. In addition, when the interest is calculated on the unpaid balances, the borrower who wishes to pay off his loan faster than the regular term is automatically protected against having to pay interest for the rest of the term.

It is seen that of all the small-loan agencies the credit union's rates are the lowest. In addition the member of the credit union makes a profit from his own loan through his share in the credit union dividends.

Cost of Operation

THE credit union and pawnshop operate at the least cost of all the agencies. This is possible for the credit union not only because it pays no large salaries and often none at all and often has free office space, but also because, since it lends only to its own members whom the credit committee knows, it incurs no expenses for investigation

and has little or no loss from failure to repay loans. The pawnshop also operates at low cost, because the security for the loan is always in its possession and is more than equal in value to the amount loaned, there is no expense incurred either for investigation or for collection of the loan, and as the loans are not repaid in installments there is little bookkeeping to be done. Comaker loan companies, according to the author, cost from one and a half to two or three times as much to operate as pawnshops and credit unions because of the necessity of investigating the borrowers. The "personal finance companies cost four to five times as much to run because of the higher cost of dunning as well as of investigation." As they lend on chattels requiring personal inspection and appraisal in each case, and as this kind of security has a very low resale value and is therefore insecure because of that fact, the chattel lender must be more sure than any other lender of the responsibility of the borrower. One of the major items of expense of the chattel lender is the cost of collection of delinquent accounts. "The collateral for these loans is so poor and it is so unpolitic to force collection on its sale or redemption that these concerns will go to almost any lengths to avoid foreclosures. Because they deal with the least responsible class of borrowers, an exceptional amount of personal 'dunning' is required."

The statement below shows the per cent of loan fund which goes into operating costs for the various types of small-loan agencies:

	Cost (per cent) of operation
Personal-loan departments of banks	3.0
Credit unions	[1] 3.7
Pawnbrokers:	
Remedial	3.5
Commercial	8.4
Industrial banks	9.9
Chattel loan agencies:	
Remedial	12.4
Leading company	17.8
New Jersey companies	21.6

Profits

THE data for profits obtained were admittedly scattered and unsatisfactory. Figures for the industrial banks show net profits for the Morris Plan banks amounting to 19.3 per cent of the capital, for the Citizen's Systems of 14.8 per cent, and for the Wimsett System of 16.4 per cent.

Practically no profit data were available for the pawnshops or personal-loan departments of commercial banks; the author considers it probable, however, that the better-run pawnshops would show "the largest profits of all the small-loan agencies because, while their rates are relatively high, their costs of operation are relatively low," while he thinks that the personal-loan departments would show the least profit of all.

With regard to the personal finance companies, the report states that although these agencies are associated in the public mind with high profits, "a search of all the available literature on the subject

[1] The data collected by the Bureau of Labor Statistics from 135 credit unions from various sections of the country for 1929 showed an expense ratio of only 1.79 per cent.

* * * has failed to reveal any concrete evidence that these concerns are making a profit that would be considered unreasonable in banking or manufacturing circles. Some of them do, however, make from two to three times as much as is considered a fair rate of return for a public utility." Analysis of the returns of all the New Jersey agencies of this type showed a net return on invested capital (including surplus) of 10 per cent, while another study, not published, showed profits of 9.8 per cent for the small independent companies and of 18.4 per cent for the chain companies. The author remarks, in this connection, "If the average large company in this State returned 18 per cent a year, it is probable that the most successful concerns showed a profit in that State of 20 per cent and over."

No corresponding data were available for the credit unions, but dividends paid out of net income in 1928 by 119 credit unions in New York State showed that the highest rate was 10 per cent, while the average rate was 4.8 per cent.

"Ironically enough," the author points out, "it is among the remedial loan societies—the so-called 'semiphilanthropic agencies'—that some of the highest profits are revealed." Five societies showed a net profit of 15 per cent or over, another of 24 per cent, and still another of 30 per cent on its capital. Most of these limit their dividends to from 6 to 8 per cent; the result is, therefore, that the remainder goes into surplus, and the company whose profit amounted to 30 per cent (though it paid dividends of only 6 per cent) has accumulated a surplus "much greater than its entire paid-in capital."

Conclusions

ASSUMING that the small-loan agencies, like other businesses, are entitled to a fair profit, and that 10 per cent (figured on the average loan funds) could be considered "fair," the following conclusions are reached:

1. The prices charged by most commercial pawnshops appear to be higher than the costs of doing that kind of business warrant.
2. The prices charged by those personal-loan departments of banks whose charges are the lowest are probably too low to carry this business at a fair profit, while those charging the highest rates are higher than are warranted.
3. The prices charged by the Morris Plan and similar industrial banks are somewhat higher than the relative cost of their class of business justifies.
4. The costs of doing a chattel-loan business are so much greater than those under the comaker note and pledge forms of collateral that a higher rate for the personal finance companies is an economic necessity.
5. The 3½ per cent per month rate allowed by most States for the chattel-loan business may have been justified on an economic basis during the early years of its development, but the profitable conduct of this business by many concerns in States with a 3 per cent maximum and the reduction to 2½ per cent by the Household Finance Co. in making loans above $100 raise the presumption that 3½ per cent may now be higher than is economically necessary, at least for loans above the $100 level.[2]
6. No concrete evidence exists of any profits among the legitimate commercial loan companies which might be called excessive in comparison with those in the fields of ordinary business—especially banking and manufacturing—although among the most efficient large chain companies net profits of from 10 to 20 per cent on loan funds employed are common.

[2] This does not mean, of course, that the 3½ per cent law should necessarily be amended.

The report recommends that an investigation should be made of all the agencies engaged in mass finance, and that provision be made for continuing statistics, to be gathered by the United States Department of Commerce.

Because of the public regulation of rates, these agencies have already been placed more or less in the position of a semipublic utility. The author recommends—

(1) That they should definitely be given this status, that they be required to take out a State license before being authorized to do business, and that they be required to make complete financial and operating reports to the proper State supervising authority.

(2) That they should be required to calculate their rates on the basis of a single standard of measurement, which would show the yearly rate charged the borrower for the funds of which he actually has the use, and to include a statement of this rate in all of their loan contracts.

(3) That maximum rates of charges should be specified by some State authority for every small-loan agency, which rate should depend on the costs.

(4) That they should be authorized, under strict State supervision and regulation, to take investments of small amounts at attractive interest rates from customers and to use these funds as part of their loan funds. (This recommendation is made because "one of the major factors in the high cost of operating small-loan companies has been the difficulty of obtaining working capital at anything but exceptionally high rates.")

(5) That "because credit unions furnish by all odds the most satisfactory and cheapest form of mass finance service, because the small-loan business is intimately connected with public welfare, because the incentive of private profit does not operate in their advancement, and because no private commercial interest would be served in so doing, Government aid should be extended to the credit union movement." The precise form of aid would have to be worked out after a thorough study of the situation, but the report suggests that State financial aid might be extended for the organization of credit unions and for educational campaigns showing the advantages of this form of credit.

LABOR AWARDS AND DECISIONS

Railway Clerks—New York Central Railroad, Buffalo and East

AN ARBITRATION board was created by agreement July 10, 1930, to handle a dispute between the New York Central Railroad, Buffalo and East, and its clerical and station employees at Granton Transfer, Weehawken, N. J., members of the International Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees.

The carrier selected J. E. Davenport and the employees selected J. A. Robertson as arbitrators. As these arbitrators were unable to agree on the neutral member of the board, the United States Board of Mediation appointed Arthur M. Millard as the neutral member.

The employees at Granton Transfer, Weehawken, N. J., prior to March 17, 1929, were assigned to 6-day operation and were paid time and one-half for work performed on the seventh day. Commencing March 17, 1929, they were regularly assigned to work Sundays and given a rest day in lieu of Sundays. The employees contended that they should be paid at the rate of time and one-half for all Sunday work performed from and including March 17, 1929, and in addition should be allowed a day's pay for each week day given as a rest day since March 17, 1929, and they further asked that the award should be effective from March 17, 1929.

The board sustained the contention of the employees that the Sunday operation of Granton Transfer, Weehawken, N. J., is not a necessary part of the continuous operation of the carrier. On February 10, 1931, the board made the following award:

> The employees coming under this agreement to arbitrate and who, commencing with March 17, 1929, or thereafter, were regularly assigned to work Sundays at Granton Transfer, Weehawken, N. J., shall be paid at the rate of time and one-half for all Sunday work performed from and including March 17, 1929, up to the effective date of this award.
>
> The board of arbitration does not affirm and denies the request of the employees that they be allowed a day's pay for each week day given as a rest day since March 17, 1929.
>
> The provisions of this award shall become effective on the date of the award, except where the Sunday rate is made retroactive, as noted in the award, and shall continue in force for the period of one year from the effective date thereof and thereafter be subject to 30 days' notice by either party to the other.

Motion-Picture Operators—Colorado Springs, Colo.

THE Industrial Commission of Colorado, on January 12, 1931, gave a decision in the dispute of Local No. 62 of the International Alliance of Theatrical Stage Employees and Motion Picture Machine Operators with the Colorado Springs Theatre Corporation.

The employees protested against the demands of the American Theatre that only one person be employed in the operation of the projection equipment during each shift of six hours at the theater.

The findings and decision of the Industrial Commission of Colorado follow:

> Much evidence was presented to the commission by both sides at this hearing. After giving the matter serious consideration the commission is of the opinion that there is not sufficient work for two men in the projection booth of this theater and too much work for one man.
>
> Therefore, it is the decision and award of the commission that the wages to said employees remain as at present—$58.38 per week for one man and $38.92 per week for the second man on each shift of six hours each.

Anthracite Miners—Pennsylvania

THE board of conciliation in the anthracite industry was recently called upon for a decision in a dispute between the Hudson Coal Co. and certain employees of Loree No. 3 colliery over the payment of wages to six employees who had been selected to attend the funeral of an employee who had been killed in Loree No. 3 colliery.

James A. Gorman, umpire of the board of conciliation, made the following decision:

> Resolution adopted by the board of conciliation upon the 8th day of July, 1918, entitled "Resolution in re $150 benefit," reads, in part, as follows: "* * * and in addition thereto directs that the grievance committee and mine foreman select six representatives to attend the funeral, it being understood that such men will be selected as will least cripple the operation on that day, the wages of said representatives to be paid by the operator."
>
> The issue involved in the present grievance raises question as to whether or not the above-quoted section of the resolution of July 8, 1918, contemplates the selection and payment of six representatives to attend the funeral of a deceased employee, coming within provisions of that resolution, in case such funeral is held on day on which the colliery where the deceased employee had worked was not in operation on the day of the funeral.
>
> Upon that question the policy of the board of conciliation has been, in a case where the death of an employee has occurred as a result of an accident at a colliery, to encourage the burial of the body of such an employee on a day on which the colliery was not in operation and to provide for the selection and payment of six representatives to attend the funeral.
>
> In a previous case, wherein the company defended, to a claim for the payment of the $150 by an heir of an employee who died as a result of an accident at a colliery, and in which case the funeral was held on a day on which the colliery was not in operation the conciliation board sustained the grievance.
>
> The umpire does not feel at liberty to do other than accept the construction placed by the board of conciliation upon that portion of the resolution of July 8, 1918, involved in the question at issue in the present case.
>
> The grievance is, therefore, sustained.

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in February, 1931

DATA regarding industrial disputes in the United States for February, 1931, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

Table 1 shows the number of disputes beginning in 1927, 1928, 1929, and 1930, number of workers involved and man-days lost for these years, the number of industrial disputes for each of the months January, 1929, to February, 1931, inclusive, the number of disputes which began in these months, the number in effect at the end of each month, and the number of workers involved. It also shows, in the last column, the economic loss (in man-days) involved. The number of workdays lost is computed by multiplying the number of workers affected in each dispute by the length of the dispute measured in working-days as normally worked by the industry or trade in question.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1929, TO FEBRUARY, 1931, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS 1927 TO 1930

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost during month or year
	Beginning in month or year	In effect at end of month	Beginning in month or year	In effect at end of month	
1927: Total	734	----------	349,434	----------	37,799,394
1928: Total	629	----------	357,145	----------	31,556,947
1929: Total	903	----------	230,463	----------	9,975,213
1930: Total [1]	623	----------	156,221	----------	2,731,664
1929					
January	48	36	14,783	39,569	951,914
February	54	35	22,858	40,306	926,679
March	77	37	14,031	40,516	1,074,468
April	117	53	32,989	52,445	1,429,437
May	115	73	13,668	64,853	1,727,694
June	73	57	19,989	58,152	1,627,565
July	80	53	36,152	15,589	1,062,428
August	78	43	25,616	6,714	358,148
September	98	49	20,233	8,132	244,864
October	69	31	16,315	6,135	272,018
November	61	32	10,443	6,067	204,457
December	33	21	3,386	2,343	95,541
1930					
January	42	21	8,879	5,316	182,202
February	44	33	37,301	6,562	436,788
March	49	34	15,017	5,847	289,470
April	60	41	5,814	5,711	180,445
May	64	30	9,281	4,640	192,201
June	54	34	13,791	8,499	150,627
July	76	31	14,219	5,039	148,982
August	51	32	15,902	7,161	144,530
September	69	41	15,946	13,409	202,874
October	46	34	10,842	15,649	336,250
November	43	28	4,380	7,424	270,254
December	25	8	4,849	5,385	197,041
1931					
January [1]	53	21	8,603	1,719	172,628
February [1]	57	46	28,996	15,709	241,983

[1] Preliminary figures subject to change.

Occurrence of Industrial Disputes, by Industries

TABLE 2 gives, by industry, the number of strikes beginning in December, 1930, January and February, 1931, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN DECEMBER, 1930, AND JANUARY AND FEBRUARY, 1931

Industry	Number of disputes beginning in—			Number of workers involved in disputes beginning in—		
	December	January	February	December	January	February
Bakers	3	1	2	188	10	14
Barbers		1			6	
Building trades	5	16	9	280	880	501
Chauffeurs and teamsters	3	3	3	685	519	225
Clothing	3	7	9	730	910	7,113
Electric and gas appliance, and radio workers			2			214
Farm labor			1			2,000
Fishermen		1	1		3,000	1,600
Food workers		1			920	
Furniture		2	4		60	199
Hotel and restaurant workers	1			30		
Leather		1	3		16	(1)
Light, heat, power, and water			1			45
Longshoremen and freight handlers			1			7,000
Lumber, timber, and millwork			1			12
Metal trades	2	2		610	28	
Miners	2	5	3	685	759	385
Motion picture operators, actors, and theatrical workers	2	1		423	6	
Printing and publishing		1			21	
Textiles	3	10	16	278	1,358	9,498
Other occupations	1	1	1	940	110	100
Total	25	53	57	4,849	8,603	28,996

Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in February, 1931, classified by number of workers and by industries.

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN FEBRUARY, 1931, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIES

Industry	Number of disputes beginning in February, 1931, involving—				
	6 and under 20 workers	20 and under 100 workers	100 and under 500 workers	1,000 and under 5,000 workers	5,000 and under 10,000 workers
Bakers	2				
Building trades	1	7	1		
Chauffeurs and teamsters	1	1	1		
Clothing	1	2	4	2	
Electric and gas appliance, and radio workers	1		1		
Farm labor				1	
Fishermen				1	
Furniture	2	1	1		
Leather	1	2			
Light, heat, power, and water		1			
Longshoremen and freight handlers					1
Lumber, timber, and millwork	1				
Miners			3		
Textiles		3	10	3	
Other occupations			1		
Total	10	17	22	7	1

In Table 4 are shown the number of industrial disputes ending in February, 1931, by industries and classified duration.

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN FEBRUARY, 1931, BY INDUSTRIES AND CLASSIFIED DURATION

Industry	Classified duration of strikes ending in February, 1931		
	One-half month or less	Over one-half and less than 1 month	1 month and less than 2 months
Bakers	2		
Building trades	8	2	1
Chauffeurs, and teamsters	3		
Clothing	5		
Electric and gas appliance, and radio workers	1		
Longshoremen and freight handlers	1		
Lumber, timber, and millwork		1	
Metal trades		1	
Miners	2		
Textiles	3		1
Other occupations	1		
Total	26	4	2

Principal Strikes and Lockouts Beginning in February, 1931

Textile workers, Pennsylvania.—Some 21 upholstery manufacturers in Philadelphia, members of the United Upholstery Manufacturers' Association, are affected by a strike of about 2,600 weavers, members of Upholstery Weavers Union No. 25, which began on February 2 because they refused to accept an arbitration award reducing wages 14 per cent. About 2,400 other employees have also been thrown out of work because of the strike which is still in progress. The local's refusal to accept the arbitration award resulted in its expulsion from the United Textile Workers, the international union.

Hosiery workers, Philadelphia.—With the alleged purpose of obtaining stabilized conditions in the full-fashioned hosiery industry in Philadelphia and vicinity, a general strike of union hosiery workers in that area was called by the American Federation of Full Fashioned Hosiery Workers against the open-shop mills, effective February 16. Philadelphia is an important manufacturing center for the product referred to. Some of the mills employ only union labor, while others are known as nonunion or open-shop mills. The strike is directed against the last-named mills, and the organization demands that the workers be paid union rates for an 8-hour day. In calling the strike, the president of the local stated that "repeated wage cuts in the nonunion mills and other unsound attempts to meet the depressed conditions of the industry already have resulted in many spontaneous strikes" and that if such action were not taken it would be reasonable to assume that the union shops would again be called upon to take a reduction, in order that they might compete with open shops. The number of strikers is estimated to be 3,000, about one-third of whom are union workers, and the number of mills directly affected is 44.

Although the strike is still in progress, several of the mills are reported to have signed the union agreement.

Textile (woolen) workers, Massachusetts.—As the result of a disagreement with the management of the Washington mill of the American Woolen Co. at Lawrence, relative to the number of combs they should attend, some of the men employed by that mill left their machines on February 16. They demanded, it is said, not only the restoration of the former working schedule, but provision for time and a half pay for overtime work. The strike spread to the Wood and Ayer mills of the company so that by February 19, 138 combers in the three mills were out. Shortly after the strike began the National Textile Workers Union assumed the leadership. At a conference with representatives on February 20 the strikers submitted demands which included the reemployment of strikers without discrimination, on the working basis prevailing before they struck, return to payment of time and a half for overtime work, allegedly taken from them within the last few months, elimination of efficiency experts, and recognition of the union. Following this conference, officials of the company issued a statement addressed to their employees, saying:

> We are agreeable to the return of our employees on the basis previous to Monday, February 16.
>
> There will be no discrimination of our employees.
>
> Where the question of cost-study programs is being considered, this will be done only with the cooperation of the employees involved, having the best interests of the employees as well as the employer in mind at all times.

The strike resulted in a temporary shutdown of the mills and affected directly and indirectly 10,575 workers. The settlement was effected largely through the activities of a citizens' committee composed of the mayor and leading officials and citizens. Mill operations were resumed on February 27, when most of the workers returned.

Longshoremen, Louisiana.—A strike of 2,000 white and negro longshoremen in New Orleans began on February 23, affecting members of the "New Orleans Steamship Assn." The strike resulted from the reduction in wages by some of the steamship lines from 80 cents to 65 cents an hour, and the refusal by other lines that had been paying 65 cents an hour to increase wages to 75 cents an hour and recognize the longshoremen's union. The places of the strikers, it is reported, were filled within 48 hours.

Principal Strikes and Lockouts Continuing into February, 1931

NONE of the strikes referred to in previous issues of the Labor Review continued into February.

Conciliation Work of the Department of Labor in February, 1931

By Hugh L. Kerwin, Director of Conciliation

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 37 labor disputes during February, 1931. These disputes affected a known total of 33,051 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On March 1, 1931, there were 42 strikes before the department for settlement and in addition 16 controversies which had not reached the strike stage. The total number of cases pending was 58.

LABOR DISPUTES HANDLED BY CONCILIATION SERVICE DURING THE MONTH OF FEBRUARY, 1931

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Beginning	Ending	Directly	Indirectly
S. Maltuz, Newark, N. J.	Lockout	Bakers	Employer refused to sign contract	Pending	1930 May 1	1931	10	
Old Ben Coal Corporation	Controversy	Miners	Mine closed; miners asked division of work of other mines of company.	Unable to adjust	1931 Jan. 29	Feb. 5	700	
Upholstery manufacturers, Philadelphia, Pa.	Strike	Weavers, etc.	Workers refused to abide by 14 per cent wage cut made by arbitration board.	Pending	Feb. 2		2,600	2,400
Newark Baking Co., Newark, N. J.	do	Bakers	Dismissal of foreman	do	Jan. 20		8	
Hillman Coal & Coke Co., Jeanette, Pa.	do	Miners	Wage cut	do	Feb. 3		250	
J. C. Carr Coal Co., Jeanette, Pa.	do	do	do	Partially adjusted. Some miners returned at wages proposed by company.	Feb. 2	Feb. 23	175	
Garfield-Washington School, Union Township, N. J.	do	Carpenters	Right of employer to engage foreman and shop steward.	Adjusted. Agreed that employer should hire foreman and carpenters select shop steward.	Jan. 18	Jan. 20	12	
Aaron Schurman Co., Hillside, N. J.	do	do	do	do	Jan. 26	Feb. 6	10	
Mammoth Hosiery Mills, Stroudsburg, Pa.	do	Hosiery workers	Wages cut 10 to 15 per cent and 17 workers discharged.	Pending	Feb. 3		192	
Chicago Postoffice Equipment Co., Chicago, Ill.	do	Carpenters	Wages cut to 75 cents per hour from $1.25. Company alleged 50 cents per hour is prevailing wage.	Adjusted. Wage cut temporarily accepted.	Feb. 2	Feb. 5	12	
Danita Hosiery Mills, Cheltenham, Pa.	do	Hosiery workers	Asked union wages and recognition.	Pending	Feb. 4		125	50
Windsor Mills (Inc.), Philadelphia, Pa.	do	do	Wages cut 25 per cent	do	Feb. 3		550	
County Building, Media, Pa.	do	Stonemasons	Asked union wages, $1.50 per hour	do	Feb. 6		27	
Fair Play Coal Co., Excelsior Springs, Mo.	do	Miners	Wages cut $1 per day and 50 cents per ton.	Adjusted. Miners returned at rate prior to strike—$1.52 per ton and $5 per day for day men.	Feb. 5	Feb. 11	105	
Bricklayers, Grand Rapids, Mich.	Lockout	Bricklayers	Refusal to accept wage cuts	Adjusted. Returned without cut—$1.50 per hour until June 1, 1931.	Jan. 29	do	22	240
Tomajko Coal Co., Adamsburg, Pa.	do	Miners	Asked increase and improved conditions.	Adjusted. Allowed 10 per cent increase and improved conditions.	Feb. 7	Feb. 11	150	
Building, Knoxville, Iowa	Controversy	Building	Rate of wages	Tentative adjustment	Feb. 6	Feb. 9	20	100
Edison Co., Detroit, Mich.	do	Bricklayers	Rate of wages paid ($1.25 per hour) alleged to be 25 cents per hour	Pending	Feb. 7		20	

Pa.			conditions.	increase and improved conditions.				
Building, Knoxville, Iowa	Controversy	Building	Rate of wages	Tentative adjustment	Feb. 6	Feb. 9	20	100
Edison Co., Detroit, Mich	do	Bricklayers	Rate of wages paid ($1.25 per hour) alleged to be 25 cents per hour less than prevailing wage.	Pending	Feb. 7		20	
Kolbe Fisheries, Erie, Pa	Strike	Fish dressers and house men.	Wages cut 15 cents per hour; agreement violated.	Adjusted. Allowed 65 cents per hour and all terms as stated in existing agreement.	Feb. 12	Feb. 25	25	30
Ohio Mining Co., State of Ohio	Controversy	Miners	(1)	(1)	(1)		(1)	
Arthur Sigmund, New Haven, Conn.	Strike	Neckwear workers	Wage cut	Pending	Feb. 12		350	
Curtiss Aero & Motor Co., Buffalo, N. Y.	Controversy	Employees	Alleged wage cut of 10 per cent	Investigation showed that wages had been cut. Contractor engaged on Government contract.	Feb. 5	Feb. 20	1,400	
Dressmakers, New York City	Strike	Dressmakers	Working conditions	Pending[2]	Feb. 18		2,000	
Knee-pants manufacturers, New York City.	do	Knee-pants makers.	Working conditions and organization.	Partial adjustment. Organized workers returned; unorganized still out. Manufacturers gave security for performance of contract.	Feb. 16	Mar. 1	2,000	
Tailors, Detroit, Mich	Controversy	Tailors	Wages cut about 10 per cent	Adjusted. Wages restored	Feb. 16	Feb. 24	12	246
Commercial Upholstering Co., New York City.	Strike	Upholsterers	2 workers discharged; 8 others stopped work.	Pending. (Company refused to reemploy workers.)	Feb. 12		10	5
Nanuet Silk Mills, Nanuet, N. Y.	do	Silk workers	Wages cut about 15 per cent; objections to working conditions.	do	Feb. 11		74	14
Cleaning and dyeing shops, Philadelphia, Pa.	Lockout	Drivers	Asked union recognition	Adjusted. Agreed to recognize union drivers in individual contracts.	Feb. 19	Feb. 26	125	
Steamship companies, New Orleans, La.	Strike	Longshoremen	Proposed wage cut to 65 cents from 80 cents per hour.	Pending[2]	Feb. 23		2,000	
Wood & Ayer Mill and Washington Mill, Lawrence, Mass.	do	Textile workers	Combers asked to operate 4 machines instead of 2.	Adjusted. Working conditions satisfactorily arranged; no wage cuts.	Feb. 16	Feb. 27	138	10,000
Building crafts, Michigan City, Ind.	Lockout	Building	Wages cut $2 per day in violation of agreement.	Pending. (Temporarily settled.)	Feb. 20	Feb. 21	600	10
United States Post Office Building, Savannah, Ga.	Controversy	Electricians	Prevailing wage alleged to be $1.07 per hour; men received $1.03.	Adjusted. Agreed to continue negotiations to satisfactory conclusion.	Feb. 5	Feb. 27	3	40
Seminary Building, Ossining, N. Y.	Strike	Steamfitters and plumbers.	Contractor refused to pay car fare of steamfitters and helpers to place of employment.	Adjusted. Agreed to pay car fare of steamfitters and helpers since beginning of work on this job to completion.	Jan. 9	Feb. 25	16	
Apex Hosiery Co. and 25 other firms, Philadelphia, Pa.	do	Hosiery workers	Asked union wages and conditions	Pending	Feb. 14		3,000	
DeWitt Clinton School No. 9, Mount Vernon, N. Y.	do	Steamfitters and helpers.	Janitors doing temporary heat work claimed by steamfitters.	Adjusted. No change on this job. Future work to be done by steamfitters.	Feb. 5	Feb. 16	35	
School No. 16, Mount Vernon, N. Y.	do	do	Sympathy with workers on DeWitt Clinton School	Adjusted. Returned when DeWitt Clinton School workers returned.	Feb. 8	Feb. 16	40	
Hotel and apartment houses, Brooklyn, N. Y.	Controversy	Superintendents, janitors, porters.	Proposed wage cut and replacing of men with women.	Adjusted. Owners agreed to continue without change.	Feb. 1	Feb. 7	100	
							19,916	13,135

[1] Not reported.

[2] Places of strikers said to have been filled within 48 hours.

End of Dispute in English Cotton-Textile Industry

UNDER date of February 13, 1931, an Associated Press dispatch announced that the "Lancashire cotton-mill owners to-day withdrew from their stand which has kept 250,000 weavers locked out of idle plants since January 17." This statement marks the cessation, at least temporarily, of a disagreement of well over a year's standing.

The cotton-textile industry of Lancashire suffered heavily in the general depression and was especially affected by the rise of the textile industry in the Far East and by the impoverishment of the great mass of consumers in India and China. Burnley, which specializes in the plainest and simplest types of plain grey cloths, was particularly hard hit, and in an effort to improve the situation an experiment was undertaken which is thus summarized in the London Economist for March 29, 1930:

> Twelve months ago the employers and the operatives in the Burnley district came to an agreement whereby 10 firms started an experiment in production which provided for each firm to work 4 per cent of their looms on the "8 looms per weaver" system. It was arranged that the looms should be run at a slower speed and the weavers have been assisted by extra hands in cloth carrying, weft carrying, and oiling and cleaning. It was agreed that during the experiment the weavers should receive a fixed weekly wage of 50s. ($12.17), but this was reduced last summer, in accordance with the wage reduction of 6¼ per cent, to 46s. 10d. ($11.40). The new system has met with a considerable amount of success. The employers have been enabled to reduce their costs and the weavers have received higher wages, as under the old system of 4 looms the average was from 40s. ($9.73) to 42s. ($10.22) a week. The agreement was for 12 months and the period expires at the beginning of next week.

From that date up to the latter part of 1930 negotiations continued between the employers and operatives without any agreement being reached. The argument of the employers was that the proposed system would make a reduction in costs of operation, and that the industry was in such a desperate condition that they simply must bring down costs or go out of business. To lessen the shock of the change they proposed that the system should be introduced gradually, only a certain per cent of a firm's total looms being brought under this plan in each quarter up to the end of 1931. The employees objected on the grounds that the saving in costs would be too small to affect the general situation of the industry, that the change would involve a large displacement of labor without any provision for its reabsorption, that it would upset altogether the carefully worked out scale of wages and would leave the worker without any safeguard against undue reductions in his earnings. If a plan for the thorough rationalization of the industry, with proper provisions for the workers' safety, were proposed, they would feel differently, but they did not wish to accept this single move which, they felt, was unfairly weighted against the employees.

As the end of the year approached, the employers decided that the time had come to introduce the system, with or without the consent of the workers, and by the beginning of November, according to the Economist of November 8, 1930, they had made definite proposals for the new wage scale:

> The scale proposed is rather complicated, but where firms decide to institute the system of eight looms per weaver the wages will vary from 49s. ($11.92) to 58s. 9d. ($14.30) per week. The weavers under the new system will of course have assistance in weft and cloth carrying. At the present time the 4-loom weaver earns about 40s. ($9.73) a week.

On December 6, 1930, the Manchester Guardian reported that the heads of the Cotton Spinners' and Manufacturers' Association and the Master Cotton Spinners' Association "have decided to give a month's notice to the Weavers' Amalgamation of their intention to bring the new piece price list rates of wages into operation" beginning January 5, 1931.

The new rates were drawn up in connection with the employers' proposals to abolish the restriction which made four ordinary Lancashire looms to a weaver the maximum. They are based on the number of picks in the cloth and the width of the cloth, and designed for the operating of 6, 8, or 10 looms by the weaver. The scheme also limits the number of looms which may be brought into it by each firm next year. In the first quarter it must not exceed 10 per cent, in the second quarter 15 per cent, in the third 20 per cent, and in the last 25 per cent.

Only a few of the owners were prepared to attempt enforcing the new system against the operatives' determined resistance, but when the 5th of January arrived, these few put the plan into effect, and the weavers promptly went on strike. On January 9 the Manchester Guardian announced: "The strike at Burnley over the more-looms question is complete, for all the mills of the nine firms who have been concerned with the experiment are now closed. * * * The number of weavers affected by the strike at the mills of the nine firms at which the strike has been brought about is 3,400, but the number of work people directly affected is 4,400."

The organized employers decided to stand by the firms trying to introduce the system, and by the morning of the 12th the following notice was posted in the weaving sheds of all the employers affiliated with the Cotton Spinners' and Manufacturers' Association and the Master Cotton Spinners' Association:

In consequence of the action of the Amalgamated Weavers' Association and the Northern Counties Textile Trades Federation in withdrawing their members employed by several cotton cloth manufacturers in Burnley and elsewhere, we hereby give notice that unless the strike of operatives at these mills have been settled in the meantime, this mill will close on Saturday, January 17, until further notice.[1]

The operatives maintained the strike, and on January 17th the lockout was put into force. It was at first supposed that the trouble could not last long, but as the days lengthened into weeks, the situation became exceedingly serious, and earnest efforts were made to compose the difference. Numerous conferences were held between the leaders of the two sides, and the Government intervened in an effort to bring about a settlement but to no effect. The workers declared their willingness to accept the change, although still unconvinced that it would make any appreciable improvement in the position of the industry, but demanded that it should be accompanied with certain guaranties as to earnings, and these the owners would not give. From the standpoint of the employees, the vital feature of the new system was the reduction in the earnings per loom operated. If the system were introduced and half the weavers laid off, the remainder, they admitted, would earn more than under the present plan as long as they continued to run more looms, but what assurance had they that the extra looms would be maintained? If work became slack, the employer might cut the number of looms assigned to each

[1] Manchester Guardian, Jan. 12, 1931, p. 9.

weaver, and they would find themselves working four or two looms, with a serious reduction in their piece rates. They would accept the change at once, they said, if the employers would guarantee a minimum wage per loom operated, and a "fall back" or minimum weekly wage regardless of the number of looms operated. These terms the employers refused absolutely.

Various compromises were suggested, but the weavers' opposition grew stronger as the struggle continued. It was thought probable that the fundamental cause was the dislike and fear of breaking up the family system under which they had worked for generations. Weaving had become almost a hereditary matter; men and women alike worked at it, children looked forward to taking it up, and the household lived on the family earnings, not on a single wage. All this would be upset by a plan which would at once cut the number of weavers in half, break up the tradition of the service, and force the younger members to seek work outside the industry and the region. However that might be, the rank and file were far more intransigent than their leaders, and their attitude steadily hardened. A proposal that the union officials should be given authority to negotiate terms of settlement upon the basis of further experiment with the more-looms system, with safeguards as to wages, was rejected by a vote of 90,770 to 44,990. A delegation from the more extreme section ignored the union officials altogether and went up to London to urge the Government to take over the reorganization of the cotton-textile industry under the terms of the emergency powers act, and a motion to this effect was introduced in Parliament. Meanwhile the corresponding section among the employers was urging that the occasion should be seized for a general revision of wages, hours, and conditions in the industry, and suggested a wage reduction of 25 per cent with an increase of hours to 53 a week.

The cessation of weaving affected the spinning and finishing sections of the industry, and the number rendered idle leaped upward. And a cotton exhibition, designed "to show the world that Lancashire is still as vigorous and resourceful as ever," and determined to retain its place among the industries of Great Britain and of the world was due to open in London on February 17.

It was in this general atmosphere that the employers, prompted, as the Manchester Guardian puts it, "by considerations of much greater breadth than those which normally hold sway," called off the lockout. At a meeting of the two associations of employers, held February 12, they declared that they were unwilling to accept the responsibility of continuing the stoppage for an indefinite time.

> They have therefore decided that the 8-looms experiment at the Burnley mills shall be discontinued, and recommend that the lockout notices be withdrawn and that all mills be reopened for work on Monday morning, February 16, at the usual time in all cases in which it is possible to do so.[2]

Upon receipt of this notice the weavers' officials at once sent word to all members to present themselves for work at the reopening of the mills, and expressed a hope that "means will be devised by joint consultations for machinery to become operative that will prevent a recurrence of such events as led to the dispute."[2]

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[2] Manchester Guardian, Feb. 14, 1931, p. 11.

LABOR TURNOVER

Labor Turnover in American Factories, February, 1931

THE Bureau of Labor Statistics presents herewith labor turnover indexes for manufacturing as a whole and for eight separate manufacturing industries. The form of average used in the following tables is the weighted arithmetic mean. Previous to January, 1931, the bureau had been using the unweighted median of company rates as a form of average for computing labor turnover rates. The averages for the months of January to December, 1930, as presented in Tables 1 and 2 have been recomputed to present the arithmetic mean.

The form of average was changed because the bureau considers that the arithmetic mean gives a more representative picture of actual conditions in industry than the median of company rates. In using the median a small company had as much influence on the rates as a large company. In using the arithmetic mean each company has an influence on the rate in proportion to the number of its employees. In computing the arithmetic mean the number of quits, discharges, lay-offs, and accessions actually occurring during the month in all plants reporting are added. The totals of these items are divided by the total average number on the company pay rolls during the month. This gives the monthly quit, discharge, lay-off, and accession rates. The equivalent annual rates are obtained by multiplying the monthly rates by the number of times the days in the current month is contained in the 365 days of the year. Since the month of February has 28 days, the equivalent annual rate is obtained by multiplying the monthly rates by 13.04.

The indexes for manufacturing as a whole are compiled from reports made to the Bureau of Labor Statistics from representative establishments in over 75 industries employing approximately 1,250,000 people. In the eight industries for which separate indexes are presented, reports were received from representative plants employing approximately 25 per cent of the employees in such industries as shown by the Census of Manufactures of 1927. In the automotive industry, schedules are received from plants employing nearly 200,000 people. Firms reporting for boots and shoes employ nearly 100,000 people, and those for cotton manufacturing employ approximately 125,000. Foundry and machine-shop firms reporting have approximately 175,000 people on their pay rolls. The furniture industry is represented by firms employing nearly 40,000 people; the iron and steel industry by firms employing 225,000 people. The reports received from representative sawmills indicate that there are approximately 65,000 people on their pay rolls, while slaughtering and meat packing reports show nearly 85,000 people.

In addition to the quit, discharge, lay-off, total separation, and accession rates, the bureau presents the net turnover rate. The net turnover rate means the rate of replacement. It is the number of jobs that are vacated and filled per 100 employees. In a plant that is increasing its force the net turnover rate is the same as the separation rate, because while more people are hired than are separated from their jobs the number hired above those leaving is due to expansion and can not be justly charged to turnover. On the other hand, in a plant that is reducing its number of employees the net turnover rate is the same as the accession rate, for while more people leave than are hired the excess of separations over accessions is due to a reduction of force and therefore can not be logically charged as a turnover expense.

For the second consecutive month the net turnover rate for manufacturing as a whole is the same as the separation rate. In other words, more people were hired during February than were separated from the pay roll.

Table 1 shows for all industries the total separation rate, subdivided into quit, discharge, and lay-off rates, together with the accession and net turnover rates, presented both on a monthly and an equivalent annual basis.

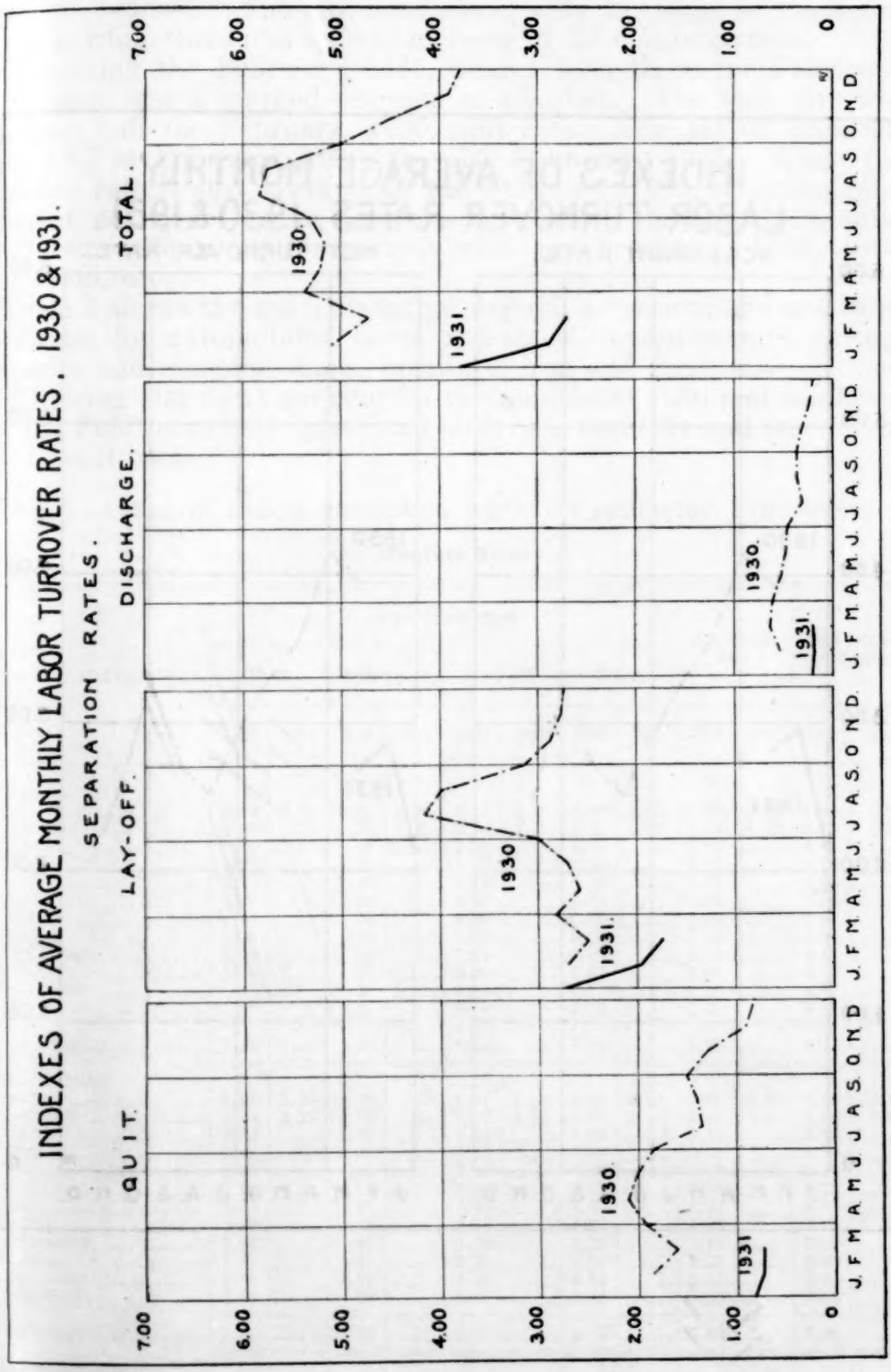
TABLE 1.—AVERAGE LABOR TURNOVER RATES IN SELECTED FACTORIES IN 75 INDUSTRIES

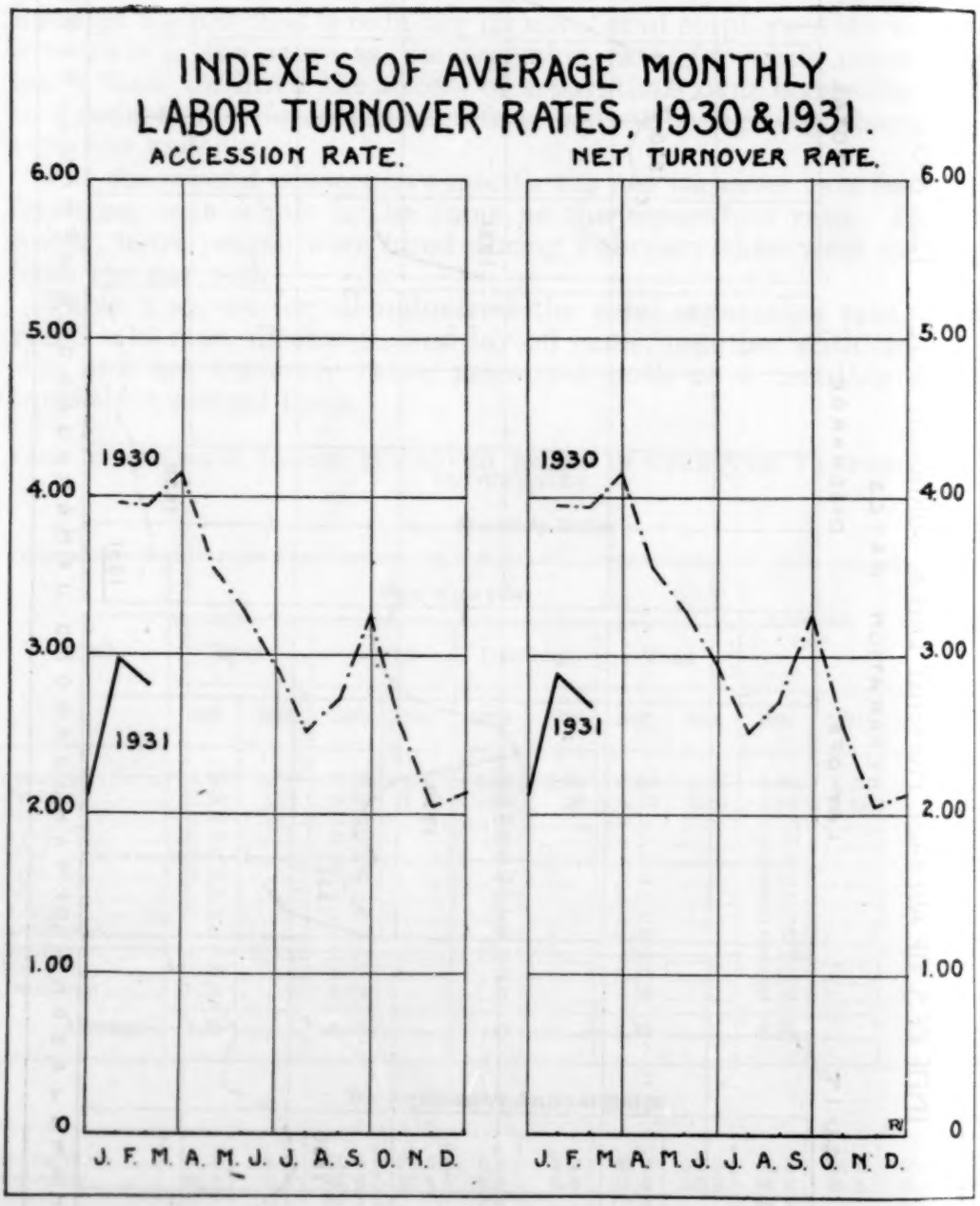
A.—Monthly Rates

Month	Separation rates								Accession rate		Net turnover rate	
	Quit		Lay-off		Discharge		Total					
	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
January	1.85	0.74	2.70	1.95	0.54	0.19	5.09	2.88	3.95	2.97	3.95	2.88
February	1.60	.74	2.50	1.75	.62	.20	4.72	2.69	3.94	2.82	3.94	2.69
March	1.94	-------	2.83	-------	.60	-------	5.37	-------	4.15	-------	4.15	-------
April	2.11	-------	2.57	-------	.53	-------	5.21	-------	3.55	-------	3.55	-------
May	2.01	-------	2.68	-------	.48	-------	5.17	-------	3.28	-------	3.28	-------
June	1.85	-------	3.00	-------	.46	-------	5.31	-------	2.92	-------	2.92	-------
July	1.35	-------	4.17	-------	.32	-------	5.84	-------	2.51	-------	2.51	-------
August	1.40	-------	3.99	-------	.36	-------	5.75	-------	2.71	-------	2.71	-------
September	1.50	-------	3.14	-------	.36	-------	5.00	-------	3.27	-------	3.27	-------
October	1.29	-------	2.88	-------	.32	-------	4.49	-------	2.56	-------	2.56	-------
November	.90	-------	2.77	-------	.24	-------	3.91	-------	2.05	-------	2.05	-------
December	.84	-------	2.74	-------	.21	-------	3.79	-------	2.13	-------	2.13	-------
Average	**1.55**	-------	**3.00**	-------	**.42**	-------	**4.97**	-------	**3.08**	-------	**3.08**	-------

B.—Equivalent Annual Rates

January	21.8	8.7	31.8	23.0	6.4	2.2	60.0	33.9	46.5	35.0	46.5	33.9
February	20.9	9.6	32.6	22.8	8.0	2.6	61.5	35.0	51.4	36.8	51.4	35.0
March	22.8	-------	33.3	-------	7.1	-------	63.2	-------	48.8	-------	48.8	-------
April	25.7	-------	31.3	-------	6.5	-------	63.5	-------	43.2	-------	43.2	-------
May	23.7	-------	31.5	-------	5.6	-------	60.8	-------	38.6	-------	38.6	-------
June	22.5	-------	36.5	-------	5.6	-------	64.6	-------	35.5	-------	35.5	-------
July	15.9	-------	49.1	-------	3.8	-------	68.8	-------	29.5	-------	29.5	-------
August	16.5	-------	47.0	-------	4.2	-------	67.7	-------	31.9	-------	31.9	-------
September	18.3	-------	38.2	-------	4.4	-------	60.9	-------	39.8	-------	39.8	-------
October	15.2	-------	33.9	-------	3.8	-------	52.9	-------	30.1	-------	30.1	-------
November	11.0	-------	33.7	-------	2.9	-------	47.6	-------	24.9	-------	24.9	-------
December	9.9	-------	32.2	-------	2.5	-------	44.6	-------	25.1	-------	25.1	-------
Average	**18.7**	-------	**35.9**	-------	**5.1**	-------	**59.7**	-------	**37.1**	-------	**37.1**	-------


INDEXES OF AVERAGE MONTHLY LABOR TURNOVER RATES, 1930 & 1931.
SEPARATION RATES.
QUIT.
LAY-OFF.
DISCHARGE.
TOTAL.
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0
1930.
1931.
J F M A M J J A S O N D


INDEXES OF AVERAGE MONTHLY LABOR TURNOVER RATES, 1930 & 1931.
ACCESSION RATE.
NET TURNOVER RATE.
6.00
5.00
4.00
3.00
2.00
1.00
0
1930
1931
J. F. M. A. M. J. J. A. S. O. N. D.

The accession rate for manufacturing as a whole for the month of February was 2.82 compared with a separation rate of 2.69. Comparing the February rates with those for January there is a marked decrease in the lay-off and total separation rates. The accession rate also declined. The quit rate was exactly the same as the January rate, while there was a slight increase in the discharge rate.

Comparing the February, 1931, figures with those for February, 1930, there was a marked decrease in all rates. The quit rate was less than half the February, 1930, quit rate. The lay-off rate fell from 2.50 in February, 1930, to 1.75, February, 1931. While the accession rate is also lower than the February, 1930, accession rate, it is not nearly so low in comparison as the February, 1931, total separation rate is in comparison with the February, 1930, total separation rate.

Table 2 shows the quit, discharge, lay-off, accession, and net turnover rates for automobiles, boots and shoes, cotton manufacturing, foundries and machine shops, furniture, iron and steel, sawmills and slaughtering and meat packing for the months of 1930 and for January and February, 1931, presented both on a monthly and an equivalent annual basis.

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES

A.—Monthly Rates

Industry and month	Separation rates								Accession rate		Net turnover rate	
	Quit		Discharge		Lay-off		Total					
	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Automobiles:												
January	2.76	0.54	0.92	0.18	5.81	2.63	9.49	3.35	13.50	2.92	9.49	2.92
February	1.16	.74	.38	.21	2.31	1.71	3.85	2.66	4.74	4.12	3.85	2.66
March	1.81	.....	.56	.....	2.04	.....	4.41	.....	6.92	.....	4.41	.....
April	2.21	.....	.50	.....	1.97	.....	4.68	.....	7.45	.....	4.68	.....
May	2.20	.....	.50	.....	5.59	.....	8.29	.....	3.98	.....	3.98	.....
June	1.59	.....	.39	.....	5.90	.....	7.88	.....	2.34	.....	2.34	.....
July	1.14	.....	.24	.....	9.48	.....	10.86	.....	2.78	.....	2.78	.....
August	1.23	.....	.38	.....	7.66	.....	9.27	.....	3.69	.....	3.69	.....
September	1.29	.....	.33	.....	7.42	.....	9.04	.....	3.83	.....	3.83	.....
October	1.19	.....	.25	.....	5.39	.....	6.83	.....	4.02	.....	4.02	.....
November	.81	.....	.16	.....	3.80	.....	4.77	.....	5.95	.....	4.77	.....
December	.88	.....	.17	.....	3.69	.....	4.74	.....	3.43	.....	3.43	.....
Average	1.52	.....	.40	.....	5.09	.....	7.01	.....	5.22	.....	5.22	.....
Boots and shoes:												
January	1.97	1.23	.78	.37	1.27	1.88	4.02	3.48	5.97	4.48	4.02	3.48
February	1.93	1.27	.70	.31	1.37	1.23	4.00	2.81	3.09	5.88	3.09	2.81
March	2.00	.....	.65	.....	1.34	.....	3.99	.....	3.18	.....	3.18	.....
April	2.48	.....	.63	.....	2.13	.....	5.29	.....	2.76	.....	2.76	.....
May	2.06	.....	.53	.....	2.47	.....	5.06	.....	5.19	.....	3.19	.....
June	1.94	.....	.47	.....	1.82	.....	4.23	.....	3.78	.....	3.78	.....
July	2.04	.....	.57	.....	1.76	.....	4.37	.....	4.74	.....	4.37	.....
August	2.19	.....	.73	.....	2.84	.....	5.76	.....	4.08	.....	4.08	.....
September	2.01	.....	.51	.....	2.78	.....	5.30	.....	2.99	.....	2.99	.....
October	1.71	.....	.47	.....	2.73	.....	4.91	.....	2.05	.....	2.05	.....
November	1.00	.....	.27	.....	4.38	.....	5.65	.....	2.41	.....	2.41	.....
December	1.03	.....	.24	.....	3.88	.....	5.15	.....	3.66	.....	3.66	.....
Average	1.86	.....	.55	.....	2.40	.....	4.81	.....	3.49	.....	3.30	.....
Cotton manufacturing:												
January	2.07	1.00	.65	.40	2.16	2.60	4.88	4.00	4.50	3.57	4.50	3.57
February	1.98	1.00	.60	.34	1.92	1.87	4.50	3.21	3.33	3.91	3.33	3.21
March	2.27	.....	.69	.....	2.20	.....	5.16	.....	4.17	.....	4.17	.....
April	2.40	.....	.68	.....	2.23	.....	5.31	.....	4.27	.....	4.27	.....
May	2.36	.....	.55	.....	2.07	.....	4.98	.....	3.95	.....	3.95	.....
June	2.06	.....	.58	.....	2.17	.....	4.81	.....	3.25	.....	3.25	.....

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES—Con.

A.—Monthly Rates—Continued

Industry and month	Separation rates								Accession rate		Net turnover rate	
	Quit		Discharge		Lay-off		Total					
	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Cotton manufacturing—Continued.												
July	1.91	------	0.55	------	3.34	------	5.80	------	2.47	------	2.47	------
August	1.58	------	.46	------	3.58	------	5.62	------	2.72	------	2.72	------
September	1.88	------	.46	------	2.44	------	4.78	------	4.58	------	4.58	------
October	1.41	------	.48	------	2.09	------	3.98	------	4.34	------	3.98	------
November	1.22	------	.35	------	2.18	------	3.75	------	2.93	------	2.93	------
December	.58	------	.24	------	1.92	------	2.74	------	1.46	------	1.46	------
Average	1.81	------	.52	------	2.36	------	4.69	------	3.50	------	3.47	------
Foundries and machine shops:												
January	------	0.52	------	0.22	------	2.32	------	3.06	------	2.93	------	2.93
February	1.36	.55	.80	.22	2.03	2.10	4.19	2.87	4.39	2.96	4.19	2.87
March	1.88	------	.88	------	3.24	------	6.00	------	4.63	------	4.63	------
April	1.88	------	.80	------	2.87	------	5.55	------	3.95	------	3.95	------
May	1.87	------	.79	------	4.12	------	6.78	------	3.76	------	3.76	------
June	1.29	------	.54	------	4.52	------	6.35	------	3.05	------	3.05	------
July	1.11	------	.43	------	4.58	------	6.12	------	2.26	------	2.26	------
August	1.01	------	.45	------	4.08	------	5.54	------	2.56	------	2.56	------
September	1.07	------	.44	------	3.82	------	5.33	------	2.45	------	2.45	------
October	.85	------	.47	------	4.01	------	5.33	------	2.27	------	2.27	------
November	.66	------	.22	------	2.87	------	3.75	------	1.85	------	1.85	------
December	.55	------	.26	------	3.10	------	3.91	------	2.05	------	2.05	------
Average	1.23	------	.55	------	3.57	------	5.35	------	3.02	------	3.02	------
Furniture:												
January	------	.55	------	.25	------	4.84	------	5.64	------	5.24	------	5.24
February	------	.57	------	.34	------	3.86	------	4.77	------	5.51	------	4.77
April	1.73	------	.64	------	4.38	------	6.75	------	3.34	------	3.34	------
May	1.26	------	.52	------	4.39	------	6.17	------	2.87	------	2.87	------
June	1.44	------	.41	------	4.33	------	6.18	------	3.82	------	3.82	------
July	1.21	------	.40	------	4.50	------	6.11	------	5.09	------	5.09	------
August	1.18	------	.41	------	3.45	------	5.04	------	5.34	------	5.04	------
September	1.09	------	.46	------	3.30	------	4.85	------	7.07	------	4.85	------
October	1.03	------	.45	------	3.61	------	5.09	------	3.72	------	3.72	------
November	.99	------	.29	------	5.92	------	7.20	------	2.48	------	2.48	------
December	.68	------	.35	------	6.66	------	7.69	------	2.35	------	2.35	------
Average	1.18	------	.44	------	4.50	------	6.12	------	4.01	------	4.01	------
Iron and steel:												
January	1.81	.71	.45	.09	1.24	1.36	3.50	2.16	5.52	2.52	3.50	2.16
February	1.91	.72	.34	.15	1.15	1.03	3.40	1.90	5.09	2.24	3.40	1.90
March	1.91	------	.45	------	1.22	------	3.58	------	4.06	------	3.58	------
April	2.26	------	.42	------	1.32	------	4.00	------	3.88	------	3.88	------
May	2.13	------	.40	------	1.71	------	4.24	------	3.25	------	3.25	------
June	1.87	------	.49	------	2.25	------	4.61	------	2.56	------	2.56	------
July	1.54	------	.24	------	2.29	------	4.07	------	2.27	------	2.27	------
August	1.61	------	.26	------	2.05	------	3.92	------	1.91	------	1.91	------
September	1.45	------	.22	------	2.16	------	3.83	------	2.32	------	2.32	------
October	1.13	------	.20	------	2.25	------	3.58	------	1.74	------	1.74	------
November	1.11	------	.13	------	1.95	------	3.19	------	1.31	------	1.31	------
December	.82	------	.10	------	2.23	------	3.15	------	1.40	------	1.40	------
Average	1.63	------	.31	------	1.82	------	3.76	------	2.94	------	2.94	------
Sawmills:												
January	3.80	.97	1.18	.43	4.52	8.02	9.50	9.42	9.39	9.99	9.39	9.42
February	3.39	1.22	1.37	.50	3.99	4.56	8.75	6.28	9.11	7.44	8.75	6.28
March	3.89	------	1.47	------	3.54	------	8.90	------	7.91	------	7.91	------
April	4.28	------	.92	------	4.97	------	10.17	------	9.66	------	9.66	------
May	3.51	------	1.35	------	8.10	------	12.96	------	10.09	------	10.09	------
June	2.93	------	.96	------	5.35	------	9.24	------	5.85	------	5.85	------
July	2.68	------	1.07	------	6.98	------	10.73	------	6.17	------	6.17	------
August	3.01	------	.93	------	6.09	------	10.03	------	6.71	------	6.71	------
September	2.99	------	.95	------	7.64	------	11.58	------	6.93	------	6.93	------
October	2.26	------	.72	------	6.58	------	9.56	------	8.32	------	8.32	------
November	1.93	------	.83	------	7.23	------	9.99	------	4.96	------	4.96	------
December	1.39	------	.93	------	7.42	------	9.74	------	4.51	------	4.51	------
Average	3.01	------	1.06	------	6.03	------	10.10	------	7.47	------	7.47	------

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES—Con.

A.—Monthly Rates—Continued

Industry and month	Separation rates								Accession rate		Net turnover rate	
	Quit		Discharge		Lay-off		Total					
	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Slaughtering and meat packing:												
January	2.32	1.29	0.91	0.61	6.68	4.40	9.91	6.30	10.02	9.50	9.91	6.30
February	2.37	1.56	.96	.68	7.70	6.48	11.03	8.72	7.39	5.02	7.39	5.02
March	2.49	------	.86	------	7.51	------	10.86	------	5.23	------	5.23	------
April	2.91	------	.75	------	4.47	------	8.13	------	8.47	------	8.13	------
May	2.84	------	.79	------	4.14	------	7.77	------	9.01	------	7.77	------
June	2.72	------	.88	------	4.59	------	8.19	------	10.34	------	8.19	------
July	2.08	------	.79	------	5.34	------	8.21	------	6.92	------	6.92	------
August	2.09	------	.72	------	5.14	------	7.95	------	6.34	------	6.34	------
September	2.26	------	.65	------	3.79	------	6.70	------	7.33	------	6.70	------
October	1.70	------	.73	------	4.67	------	7.10	------	7.62	------	7.10	------
November	1.12	------	.56	------	4.80	------	6.48	------	7.30	------	6.48	------
December	1.69	------	.57	------	5.59	------	7.85	------	6.24	------	6.24	------
Average	2.22	------	.76	------	5.37	------	8.35	------	7.68	------	7.68	------

B—Equivalent Annual Rates

Automobiles:												
January	32.5	6.4	10.8	2.1	68.4	31.0	111.7	39.5	158.9	34.4	111.7	34.4
February	15.1	9.6	5.0	2.7	30.1	22.3	50.2	34.6	61.8	53.7	50.2	34.6
March	21.3	------	6.6	------	24.0	------	51.9	------	81.4	------	51.9	------
April	26.9	------	6.1	------	24.0	------	57.0	------	90.7	------	57.0	------
May	25.9	------	5.9	------	65.8	------	97.6	------	46.8	------	46.8	------
June	19.4	------	4.7	------	71.8	------	95.9	------	28.5	------	28.5	------
July	13.4	------	2.8	------	111.6	------	127.8	------	32.7	------	32.7	------
August	14.5	------	4.5	------	90.2	------	109.2	------	43.4	------	43.4	------
September	15.7	------	4.0	------	90.3	------	110.0	------	46.6	------	46.6	------
October	14.0	------	2.9	------	63.4	------	80.3	------	47.3	------	47.3	------
November	9.9	------	1.9	------	46.2	------	58.0	------	72.4	------	58.0	------
December	10.4	------	2.0	------	43.4	------	55.8	------	40.4	------	40.4	------
Average	18.3	------	4.8	------	60.8	------	83.8	------	62.6	------	62.6	------
Boots and shoes:												
January	23.2	14.5	9.2	4.4	14.9	22.1	47.3	41.0	70.3	52.7	47.3	41.0
February	25.2	16.6	9.1	4.0	17.9	16.0	52.2	36.6	40.3	76.7	40.3	36.6
March	23.5	------	7.7	------	15.8	------	47.0	------	37.4	------	37.4	------
April	30.2	------	8.3	------	25.9	------	64.4	------	33.6	------	33.6	------
May	24.2	------	6.2	------	29.1	------	59.5	------	37.5	------	37.5	------
June	23.6	------	5.7	------	22.1	------	51.4	------	46.0	------	46.0	------
July	24.0	------	6.7	------	20.7	------	51.4	------	55.8	------	51.4	------
August	25.8	------	8.6	------	33.4	------	67.8	------	48.0	------	48.0	------
September	24.5	------	6.2	------	33.8	------	64.5	------	36.4	------	36.4	------
October	20.1	------	5.5	------	32.1	------	57.7	------	24.1	------	24.1	------
November	12.2	------	3.3	------	53.3	------	68.8	------	29.3	------	29.3	------
December	12.1	------	2.8	------	45.7	------	60.6	------	43.1	------	43.1	------
Average	22.4	------	6.6	------	28.7	------	57.7	------	41.8	------	41.8	------
Cotton manufacturing:												
January	24.4	11.8	7.7	4.7	25.4	30.6	57.5	47.1	53.0	42.0	53.0	42.0
February	25.8	13.0	7.8	4.4	25.0	24.4	58.6	41.8	43.4	51.0	43.4	41.8
March	26.7	------	8.1	------	25.9	------	60.7	------	49.1	------	49.1	------
April	29.2	------	8.3	------	27.1	------	64.6	------	52.0	------	52.0	------
May	27.8	------	6.5	------	24.4	------	58.7	------	46.5	------	46.5	------
June	25.1	------	7.1	------	26.4	------	58.6	------	39.6	------	39.6	------
July	22.5	------	6.5	------	39.3	------	68.3	------	29.1	------	29.1	------
August	18.6	------	5.4	------	42.1	------	66.1	------	32.0	------	32.0	------
September	22.9	------	5.6	------	29.7	------	58.2	------	55.7	------	55.7	------
October	16.6	------	5.6	------	24.6	------	46.8	------	51.1	------	46.8	------
November	14.8	------	4.3	------	26.5	------	45.6	------	35.7	------	35.7	------
December	6.8	------	2.8	------	22.6	------	32.2	------	17.2	------	17.2	------
Average	21.8	------	6.3	------	28.3	------	56.3	------	42.0	------	41.7	------

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES—Con.

B—Equivalent Annual Rates—Continued

Industry and month	Separation rates								Accession rate		Net turnover rate	
	Quit		Discharge		Lay-off		Total					
	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Foundries and machine shops:												
January	------	6.1	------	2.6	------	27.3	------	36.0	------	34.5	------	34.5
February	17.7	7.2	10.4	2.9	26.5	27.4	54.6	37.5	57.2	38.6	54.6	37.5
March	22.1	------	10.4	------	38.1	------	70.6	------	54.5	------	54.5	------
April	22.9	------	9.7	------	34.9	------	67.5	------	48.1	------	48.1	------
May	22.0	------	9.3	------	48.5	------	79.8	------	44.3	------	44.3	------
June	15.7	------	6.6	------	55.0	------	77.3	------	37.1	------	37.1	------
July	13.1	------	5.1	------	53.9	------	72.1	------	26.6	------	26.6	------
August	11.9	------	5.3	------	48.0	------	65.2	------	30.1	------	30.1	------
September	13.0	------	5.4	------	46.5	------	64.9	------	29.8	------	29.8	------
October	10.0	------	5.5	------	47.2	------	62.7	------	26.7	------	26.7	------
November	8.0	------	2.7	------	34.9	------	45.6	------	22.5	------	22.5	------
December	6.5	------	3.1	------	36.5	------	46.1	------	24.1	------	24.1	------
Average	14.8	------	6.7	------	42.7	------	64.2	------	36.5	------	36.5	------
Furniture:												
January	------	6.5	------	2.9	------	57.0	------	66.4	------	61.7	------	61.7
February	------	7.4	------	4.4	------	50.3	------	62.1	------	71.9	------	62.1
April	21.1	------	7.8	------	53.3	------	82.2	------	40.6	------	40.6	------
May	14.8	------	6.1	------	51.6	------	72.5	------	33.8	------	33.8	------
June	17.5	------	5.0	------	52.7	------	75.2	------	46.5	------	46.5	------
July	14.2	------	4.7	------	53.0	------	71.9	------	59.9	------	59.9	------
August	13.9	------	4.8	------	40.6	------	59.3	------	62.9	------	59.3	------
September	13.3	------	5.6	------	40.2	------	59 1.	------	86.0	------	59.1	------
October	12.1	------	5.3	------	42.5	------	59.9	------	43.8	------	43.8	------
November	12.0	------	3.5	------	72.0	------	87.5	------	30.2	------	30.2	------
December	8.0	------	4.1	------	78.4	------	90.5	------	27.7	------	27 7	------
Average	14.1	------	5.2	------	53.8	------	73.1	------	47.9	------	47.9	------
Iron and steel:												
January	21.3	8.4	5.3	1.1	14.6	16.0	41.2	25.5	65.0	29.7	41.2	25.5
February	24.9	9.4	4.4	2.0	15.0	13.4	44.3	24.8	66.4	29.2	44.3	24.8
March	22.5	------	5.3	------	14.4	------	42.2	------	47.8	------	42.2	------
April	27.5	------	5.1	------	16.1	------	48.7	------	47.2	------	47.2	------
May	25.1	------	4.7	------	20.1	------	49.9	------	38.3	------	38.3	------
June	22.8	------	6.0	------	27.4	------	56.2	------	31.2	------	31.2	------
July	18.1	------	2.8	------	27.0	------	47.9	------	26.7	------	26.7	------
August	18.9	------	3.1	------	24.1	------	46.1	------	22.5	------	22.5	------
September	17.6	------	2.7	------	26.3	------	46.6	------	28.2	------	28.2	------
October	13.3	------	2.4	------	26.5	------	42.2	------	20.5	------	20.5	------
November	13.5	------	1.6	------	23.7	------	38.8	------	15.9	------	15.9	------
December	9.7	------	1.2	------	26.2	------	37.1	------	16.5	------	16.5	------
Average	19.6	------	3.7	------	21.8	------	45.1	------	35.5	------	35.5	------
Sawmills:												
January	44.7	11.4	13.9	5.1	53.2	94.4	111.8	110.9	110.5	117.6	110.5	110.9
February	44.2	15.9	17.9	6.5	52.0	59.5	114.1	81.9	118.8	97.0	114.1	81.9
March	45.8	------	17.3	------	41.7	------	104.8	------	93.1	------	93.1	------
April	52.1	------	11.2	------	60.5	------	123.8	------	117.6	------	117.6	------
May	41.3	------	15.9	------	95.3	------	152.5	------	118.8	------	118.8	------
June	35.7	------	11.7	------	65.1	------	112.5	------	71.2	------	71.2	------
July	31.5	------	12.6	------	82.2	------	126.3	------	72.6	------	72.6	------
August	35.4	------	10.9	------	71.7	------	118.0	------	79.0	------	79.0	------
September	36.4	------	11.6	------	93.0	------	141.0	------	84.3	------	84.3	------
October	26.6	------	8.5	------	77.4	------	112.5	------	97.9	------	97.9	------
November	23.5	------	10.1	------	88.0	------	121.6	------	60.4	------	60.4	------
December	16.4	------	10.9	------	87.3	------	114.6	------	53.1	------	53.1	------
Average	36.1	------	12.7	------	72.3	------	121.1	------	89.8	------	80.8	------
Slaughtering and meat packing:												
January	27.3	15.2	10.7	7.2	78.6	51.8	116.6	74.2	117.9	111.8	116.6	74.2
February	30.9	20.3	12.5	8.9	100.4	84.5	143.8	113.7	96.4	65.5	96.4	65.5
March	29.3	------	10.1	------	88.4	------	127.8	------	61.6	------	61.6	------
April	35.4	------	9.1	------	54.4	------	98.9	------	103.1	------	98.9	------
May	33.4	------	9.3	------	48.7	------	91.4	------	166.0	------	91.4	------
June	33.1	------	10.7	------	55.9	------	99.7	------	125.8	------	99.7	------
July	24.5	------	9.3	------	62.9	------	96.7	------	81.4	------	81.4	------
August	24.6	------	8.5	------	60.5	------	93.6	------	74.6	------	74.6	------
September	27.5	------	7.9	------	46.1	------	81.5	------	89.2	------	81.5	------
October	20.0	------	8.6	------	55.0	------	83.6	------	89.7	------	83.6	------
November	13.6	------	6.8	------	58.4	------	78.8	------	88.8	------	78.8	------
December	19.9	------	6.7	------	65.8	------	92.4	------	73.4	------	73.4	------
Average	26.6	------	9.2	------	64.6	------	100.4	------	92.3	------	92.3	------

The rates in the above table have been recomputed for these industries for all months for which the bureau has received reports.

The accession rate was higher than the total separation rate for each industry for which separate indexes are shown except for slaughtering and meat packing, which has a higher separation rate than accession rate. Boots and shoes, cotton manufacturing, sawmills, and slaughtering and meat packing each had a higher quit rate than the all manufacturing quit rate. Foundries and machine shops, furniture, and iron and steel had lower quit rates than that shown for all industries. The automotive industry had the same quit rate as that for all manufacturing.

The discharge rate for automobiles, boots and shoes, cotton manufacturing, foundries and machine shops, furniture, sawmills, and slaughtering and meat packing were all higher than the discharge rate for all industries. Iron and steel had a lower discharge rate than that shown by manufacturing as a whole.

A higher lay-off rate than the all manufacturing lay-off rate was shown for the following industries: Cotton manufacturing, foundries and machine shops, furniture, sawmills, and slaughtering and meat packing. The following industries had lower lay-off rates than that shown for all industries: Automobiles, boots and shoes, and iron and steel.

The accession rate for all manufacturing was 2.82. This was exceeded by the accession rate of automboiles, boots and shoes, cotton manufacturing, foundries and machine shops, furniture, sawmills, and slaughtering and meat packing. The accession rate for iron and steel was lower than the all industry accession rate.

The highest quit rate for any industry for which separate indexes are shown was registered in the slaughtering and meat-packing industry. This industry had a quit rate for February of 1.56. The lowest quit rate, 0.55, occurred in foundries and machine shops. Slaughtering and meat packing also had the highest discharge rate, 0.68. The lowest discharge rate, 0.15, was shown by the iron and steel industry. The highest lay-off rate was 6.48, which was also registered by the slaughtering and meat-packing industry. The lowest lay-off rate, 1.03, was shown by the iron and steel industry. Sawmills had the highest accession rate, 7.44. The lowest accession rate was 2.24 in the iron and steel industry.

HOUSING

Building Permits in Principal Cities, February, 1931

BUILDING permit reports have been received by the Bureau of Labor Statistics from 342 identical cities having a population of 25,000 or over for the months of January and February, 1931, and for 297 identical cities for the months of February, 1930, and for February, 1931.

The cost figures in the tables below show the costs of the buildings as estimated by the prospective builders when applying for their permits to build. No land costs are included. Only building projects within the corporate limits of the cities enumerated are shown.

The States of Illinois, Massachusetts, New Jersey, New York, and Pennsylvania, through their Departments of Labor, are cooperating with the United States Bureau of Labor Statistics in the collection of these data.

Table 1 shows the estimated cost of new residential buildings, of new nonresidential buildings, and of total building operations in 342 cities of the United States by geographic divisions.

TABLE 1.—ESTIMATED COST OF NEW BUILDINGS IN 342 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN JANUARY AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new dwellings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
New England	$2,843,800	$1,969,340	525	302	$1,205,007	$2,787,056	$5,329,693	$5,744,148
Middle Atlantic	19,121,945	14,237,482	3,746	3,407	15,297,875	16,377,891	44,403,799	36,657,094
East North Central	4,238,151	5,220,700	849	1,067	12,212,993	11,901,878	18,358,935	21,530,172
West North Central	1,298,171	1,691,520	328	434	2,379,109	2,857,979	4,145,037	5,088,966
South Atlantic	2,217,450	5,649,371	565	1,038	2,112,126	2,648,181	6,934,104	10,186,457
South Central	3,000,238	2,849,055	1,006	995	6,318,951	4,656,223	10,234,450	8,521,693
Mountain and Pacific	5,169,001	5,652,318	1,518	1,558	6,357,619	5,066,741	13,472,069	12,583,326
Total	37,888,756	37,269,786	8,537	8,801	45,883,680	46,295,949	102,878,087	100,311,856
Per cent of change		−1.6		+3.1		+0.9		−2.5

Permits were issued in these 342 cities during February, 1931, for building operations to cost $100,311,856, which was 2.5 per cent less than the estimated cost of the building construction for which permits were issued during January, 1931. While new residential buildings decreased 1.6 per cent in estimated cost, new nonresidential buildings increased 0.9 per cent comparing February permits with January permits.

The new residences for which permits were issued during the month of February were to house 8,801 families, an increase of 3.1

per cent over the number of families provided for by the new dwellings for which permits were issued during January, 1931. Increases in residential buildings occurred in the East North Central States, the West North Central States, the South Atlantic States, and the Mountain and Pacific States. Decreases in new residential buildings were shown in the New England States, Middle Atlantic States, and South Central States. Increases in new nonresidential buildings were shown in the New England States, the Middle Atlantic States, the West North Central States, and the South Atlantic States. Decreases in the estimated cost of new nonresidential buildings occurred in the East North Central States, the South Central States, and the Mountain and Pacific States.

Comparing February permits with January permits, there was an increase in the estimated cost of total building operations in the New England States, the East North Central States, the West North Central States, and the South Atlantic States. Decreases in total building operations occurred in the Middle Atlantic States, the South Central States, and the Mountain and Pacific States.

Table 2 shows the estimated cost of additions, alterations, and repairs as shown by permits issued, together with the percentage of increase or decrease in February, 1931, as compared with January, 1931, in 342 identical cities by geographic divisions.

TABLE 2.—ESTIMATED COST OF ADDITIONS, ALTERATIONS, AND REPAIRS IN 342 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN JANUARY AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	Estimated cost		Per cent of increase or decrease February, compared with January
	January, 1931	February, 1931	
New England	$1,280,886	$987,752	−22.9
Middle Atlantic	9,983,979	6,041,721	−39.5
East North Central	1,907,791	4,407,594	+131.0
West North Central	467,757	539,467	+15.3
South Atlantic	2,604,528	1,888,905	−27.5
South Central	915,261	1,016,415	+11.1
Mountain and Pacific	1,945,449	1,864,267	−4.2
Total	19,105,651	16,746,121	−12.3

There was a decrease of 12.3 per cent in the estimated cost of the additions, alterations, and repairs for which permits were issued in these 342 cities comparing February, 1931, with January, 1931. Increases in the estimated cost of additions, alterations, and repairs were shown in three of the seven geographic divisions, ranging from 11.1 per cent in the South Central States to 131.0 per cent in the East North Central States. The decreases ranged from 4.2 per cent in the Mountain and Pacific States to 39.5 per cent in the Middle Atlantic States.

Table 3 shows the index numbers of families provided for and the index numbers of indicated expenditures for new residential buildings, for new nonresidential buildings, for additions, alterations, and repairs, and for total building operations. These indexes are worked on the chain system with the monthly average of 1929 equaling 100.

TABLE 3.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF THE ESTIMATED COST OF BUILDING OPERATIONS AS SHOWN BY PERMITS ISSUED IN PRINCIPAL CITIES OF THE UNITED STATES, FEBRUARY, 1930, TO FEBRUARY, 1931, INCLUSIVE

[Monthly average, 1929=100]

Month	Families provided for	Estimated costs of—			
		New residential buildings	New nonresidential buildings	Additions, alterations, and repairs	Total building operations
1930					
February	43.0	34.7	51.8	57.5	44.1
March	57.1	47.2	87.1	77.5	66.4
April	62.0	51.0	100.1	81.8	73.8
May	59.6	48.5	90.7	84.5	69.3
June	54.4	45.1	82.5	74.6	63.3
July	49.9	44.1	86.7	77.4	64.8
August	48.7	43.4	67.2	58.6	54.4
September	51.3	44.4	73.8	64.2	58.2
October	58.3	44.9	53.5	58.1	49.7
November	52.9	42.5	54.4	37.8	46.3
December	45.0	37.6	64.3	53.5	50.1
1931					
January	39.1	30.8	43.4	55.5	38.9
February	40.3	30.3	43.8	48.6	37.9

The index number of families provided for stood at 40.3 in February, 1931, an increase over the preceding month but lower than for February, 1930. The index number of new residential buildings for February, 1931, was 30.3, which was lower than for either January, 1931, or February, 1930. The index numbers of additions, alterations, and repairs and of total building operations were both lower than for February, 1930, or January, 1931. The index number of new nonresidential buildings, while lower than for February, 1930, was higher than for January, 1931.

The chart on page 151 shows in graphic form the estimated cost of new residential buildings, of new nonresidential buildings, and of total building operations.

Table 4 shows the dollar value of contracts let for public buildings by the different agencies of the United States Government during the months of January, 1931, and February, 1931, by geographic divisions.

TABLE 4.—CONTRACTS LET FOR PUBLIC BUILDINGS BY DIFFERENT DIVISIONS OF THE UNITED STATES GOVERNMENT DURING JANUARY AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	January, 1931	February, 1931
New England	$8,480	$107,536
Middle Atlantic	3,490,599	113,230
East North Central	211,303	902,279
West North Central	117,555	114,600
South Atlantic	2,346,752	1,389,117
South Central	413,972	493,817
Mountain and Pacific	945,923	313,086
Total	7,534,584	3,433,665

Contracts were let for United States Government buildings during January, 1931, to cost $7,534,584, and during February, 1931, to cost $3,433,665. These contracts were let by the following agencies: United States Capitol Architect; Office of the Quartermaster General,

War Department; Bureau of Yards and Docks, Navy Department; Supervising Architect, Treasury Department; and the United States Veterans' Bureau.

Whenever the contract is let by the United States Government for a building in a city having a population of 25,000 or over the cost is included in the estimated costs as shown in the cities enumerated in Table 8.

Table 5 shows the dollar value of contracts awarded by the different State governments for public buildings during the months of January, 1931, and February, 1931, by geographic divisions.

TABLE 5.—CONTRACTS AWARDED FOR PUBLIC BUILDINGS BY THE DIFFERENT STATE GOVERNMENTS DURING JANUARY AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	January, 1931	February, 1931
New England	$44,540	$101,905
Middle Atlantic	588,293	1,045,915
East North Central	268,871	19,452
West North Central	93,029	5,291
South Atlantic	246,925	154,190
South Central	247,000	4,120
Mountain and Pacific	164,141	441,750
Total	1,652,799	1,772,623

Whenever the contract is let by a State government for a building in a city having a population of 25,000 or over the cost is included in the estimated cost as shown in the cities enumerated in Table 8.

Table 6 shows the estimated cost of new residential buildings, new nonresidential buildings, and of total building operations in 297 identical cities having a population of 25,000 or over for February, 1930, and February, 1931, by geographic divisions.

TABLE 6.—ESTIMATED COST OF NEW BUILDINGS IN 297 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN FEBRUARY, 1930, AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new dwellings					
	February, 1930	February, 1931	February, 1930	February, 1931	February, 1930	February, 1931	February, 1930	February 1931
New England	$2,053,900	$1,961,340	389	300	$3,112,491	$2,787,056	$7,353,477	$5,720,578
Middle Atlantic	15,097,670	14,207,097	2,534	3,402	15,709,797	16,340,166	37,481,809	36,531,744
East North Central	8,411,296	4,732,276	1,290	957	16,386,972	11,176,042	27,626,068	20,237,986
West North Central	2,341,040	1,691,520	612	434	2,585,775	2,857,979	5,789,843	5,085,466
South Atlantic	2,654,422	5,586,921	545	1,021	4,761,263	2,319,823	9,799,446	9,746,224
South Central	5,317,443	2,708,720	1,351	945	3,906,118	4,269,075	10,426,438	7,904,054
Mountain and Pacific	7,072,114	5,261,644	2,368	1,447	4,917,987	4,505,627	14,441,085	11,546,115
Total	42,947,885	36,149,518	9,089	8,506	51,380,403	44,255,768	112,918,166	96,772,167
Per cent of change		−15.8		−6.4		−13.9		−14.3

There was a decrease of 14.3 per cent in the estimated cost of total construction for which permits were issued in February, 1931, as

compared with February, 1930. New residential buildings decreased 15.8 per cent in estimated cost comparing February, 1931, with February, 1930, and new nonresidential buildings decreased 13.9 per cent.

The number of families provided with dwelling places in new residential buildings decreased 6.4 per cent in February, 1931, as compared with the same month of the previous year.

An increase in new residential buildings was shown in the South Atlantic States. All other geographic divisions showed decreases in this class of building, comparing February, 1931, with January, 1931.

Increases in new nonresidential buildings were shown in the Middle Atlantic States, the West North Central States, and the South Central States. The other four geographic divisions registered decreases in nonresidential building.

Comparing permits issued in February, 1931, with those issued during February, 1930, a decrease in total construction was shown in each of the seven geographic divisions. These decreases ranged from slightly more than $50,000 in the South Atlantic States to more than $7,000,000 in the East North Central States.

Comparing February, 1931, with February, 1930, the number of family dwelling units provided showed an increase in the Middle Atlantic States and the South Atlantic States. The other geographic divisions showed decreases in family dwelling units provided.

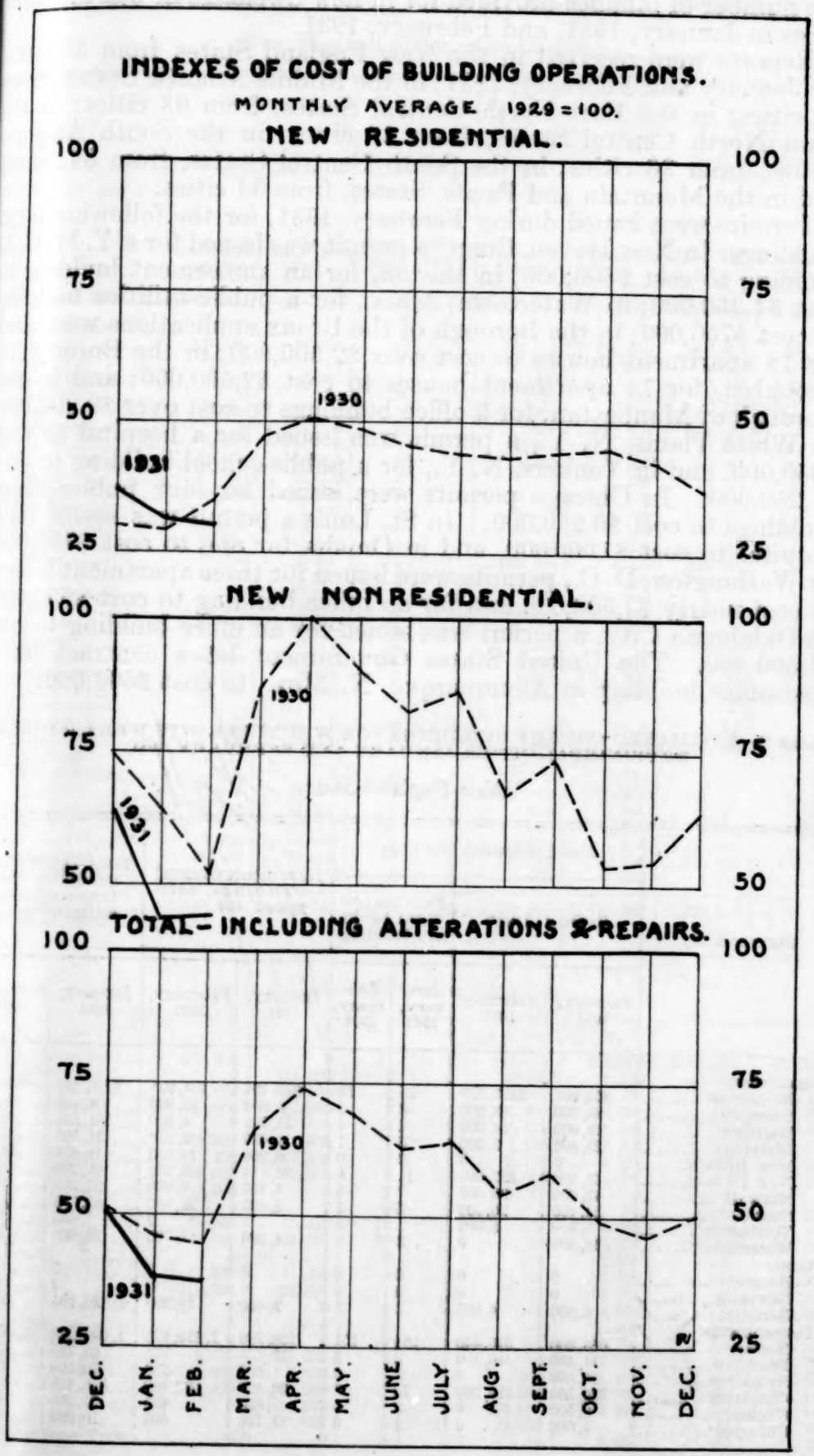
Table 7 shows the estimated cost of additions, alterations, and repairs as shown by permits issued, together with the percentage of increase or decrease in February, 1931, as compared with February, 1930.

TABLE 7.—ESTIMATED COST OF ADDITIONS, ALTERATIONS, AND REPAIRS IN 257 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN FEBRUARY, 1930, AND FEBRUARY, 1931, BY GEOGRAPHIC DIVISIONS

Geographic division	Estimated cost		Per cent of change, February, 1931, compared with February, 1930
	February, 1930	February, 1931	
New England	$2,187,086	$972,182	−55.6
Middle Atlantic	6,674,342	5,984,481	−10.3
East North Central	2,827,800	4,329,668	+53.1
West North Central	863,028	535,967	−37.9
South Atlantic	2,383,761	1,839,480	−22.8
South Central	1,202,877	926,259	−23.0
Mountain and Pacific	2,450,984	1,778,844	−27.4
Total	18,589,878	16,366,881	−12.0

Projected expenditures for additions, alterations, and repairs decreased 12.0 per cent in February, 1931, as compared with February, 1930. Decreases were shown in six of the seven geographic divisions. The decreases in estimated expenditures for additions, alterations, and repairs ranged from 10.3 per cent in the Middle Atlantic States to 55.6 per cent in the New England States. There was an increase of 53.1 per cent in the estimated cost of additions, alterations, and repairs in the East North Central States in February, 1931, as compared with this class of structure in February, 1930.

Table 8 shows the estimated cost of new residential buildings, new nonresidential buildings, and total building operations, together with


INDEXES OF COST OF BUILDING OPERATIONS.
MONTHLY AVERAGE 1929 = 100.
NEW RESIDENTIAL.
100
75
50
25
1930
1931
NEW NONRESIDENTIAL.
TOTAL - INCLUDING ALTERATIONS & REPAIRS.
DEC.
JAN.
FEB.
MAR.
APR.
MAY.
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.

the number of families provided for in new dwellings in 342 identical cities in January, 1931, and February, 1931.

Reports were received in the New England States from 50 cities for January and February, 1931; in the Middle Atlantic States, from 70 cities; in the East North Central States, from 93 cities; in the West North Central States, from 25 cities; in the South Atlantic States, from 36 cities; in the South Central States, from 34 cities; and in the Mountain and Pacific States, from 34 cities.

Permits were issued during February, 1931, for the following large buildings: In New Haven, Conn., a permit was issued for a Y. M. C. A. building to cost $500,000; in Boston, for an amusement building to cost $1,250,000; in Watertown, Mass., for a public-utilities building to cost $750,000; in the Borough of the Bronx applications were filed for 18 apartment houses to cost over $2,500,000; in the Borough of Brooklyn, for 14 apartment houses to cost $2,500,000; and in the Borough of Manhattan, for 3 office buildings to cost over $9,000,000. In White Plains, N. Y., a permit was issued for a hospital to cost $550,000, and in Yonkers, N. Y., for a public-school building to cost $1,250,000. In Chicago permits were issued for four public-school buildings to cost $6,250,000. In St. Louis a permit was issued for a hospital to cost $1,000,000, and in Omaha for one to cost $750,000. In Washington, D. C., permits were issued for three apartment houses to cost nearly $3,500,000 and for an office building to cost $650,000. In Oklahoma City, a permit was issued for an office building to cost $1,500,000. The United States Government let a contract for a post-office building in Albuquerque, N. Mex., to cost $503,000.

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931

New England States

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
Connecticut:								
Bridgeport	$62,600	$123,300	15	10	$19,104	$34,035	$216,884	$168,220
Greenwich	96,000	58,000	8	5	4,050	12,900	168,150	86,000
Hartford	19,000	14,000	4	4	18,935	4,900	101,525	59,264
Meriden	25,800	3,500	5	1	1,530	6,250	31,705	21,870
New Britain	0	0	0	0	6,250	18,800	19,935	24,728
New Haven	43,500	527,500	11	4	24,115	8,950	91,300	558,685
Norwalk	49,000	30,000	7	5	3,150	4,000	93,000	49,850
Stamford	34,400	20,500	5	3	8,425	20,050	62,535	51,040
Torrington	5,000	8,000	1	2	775	0	7,650	23,570
Waterbury	13,800	0	3	0	4,200	11,700	20,650	20,960
Maine:								
Bangor	0	0	0	0	0	0	0	0
Lewiston	0	0	0	0	0	0	0	13,000
Portland	8,800	4,000	2	1	9,460	18,200	30,995	36,370
Massachusetts:								
Boston [1]	663,800	575,440	164	151	158,280	1,319,625	1,094,218	2,183,609
Brockton	11,500	10,500	2	2	12,575	775	62,725	20,350
Brookline	56,500	0	3	0	600	250	70,100	15,925
Cambridge	326,500	12,000	72	3	20,400	62,409	376,125	87,519
Chelsea	8,500	0	2	0	2,620	425	27,395	3,925
Chicopee	4,000	0	1	0	3,100	600	10,000	800

[1] Applications filed.

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

New England States—Continued

State and city	New residential buildings: Estimated cost		New residential buildings: Families provided for in new buildings		New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
Massachusetts—Con.								
Everett	$16,600	$7,000	5	2	$43,050	$12,000	$60,425	$23,700
Fall River	2,800	0	1	0	37,250	692	49,530	11,042
Fitchburg	2,500	5,000	1	1	400	0	2,900	23,600
Haverhill	0	0	0	0	30	3,450	8,220	10,100
Holyoke	7,000	0	1	0	400	135,100	25,650	140,100
Lawrence	0	0	0	0	800	13,300	4,200	27,757
Lowell	13,500	0	4	0	10,675	250	42,550	9,660
Lynn	32,000	26,800	7	6	1,400	2,500	70,515	60,040
Malden	21,900	22,700	5	5	350	9,250	25,700	39,460
Medford	55,500	67,500	13	15	3,085	64,050	64,635	134,520
New Bedford	0	5,000	0	1	3,475	104,500	8,900	116,775
Newton	781,800	123,000	84	14	1,750	3,775	788,700	135,785
Pittsfield	25,000	10,000	5	2	300	200	35,850	22,275
Quincy	46,300	35,500	14	11	109,350	9,500	223,954	91,075
Revere	8,000	7,000	2	2	100	400	18,025	17,050
Salem	0	7,500	0	1	300	300	6,495	21,045
Somerville	46,500	6,500	10	2	13,000	52,750	94,750	66,521
Springfield	41,800	21,600	8	4	28,925	3,000	108,175	51,600
Taunton	6,000	2,600	1	1	540	1,375	20,670	21,825
Waltham	67,500	13,000	16	3	1,450	2,775	94,100	22,325
Watertown	36,500	7,500	6	2	1,300	750,900	44,575	761,675
Worcester	48,100	42,100	8	8	7,100	4,730	115,570	117,013
New Hampshire:								
Concord	0	0	0	0	0	0	3,000	0
Manchester	0	0	0	0	250	630	2,438	25,160
Rhode Island:								
Central Falls	0	0	0	0	0	100	1,850	1,000
Cranston	32,500	54,900	7	12	438,398	10,250	471,828	70,275
East Providence	15,300	21,200	3	5	3,040	52,800	24,906	82,005
Newport	0	4,500	0	1	1,500	2,550	9,785	12,420
Pawtucket	19,900	12,700	5	3	2,670	1,510	66,630	18,920
Providence	88,100	79,000	14	10	195,950	20,150	348,900	179,390
Woonsocket	0	0	0	0	600	200	1,375	4,360
Total	2,843,800	1,969,340	525	302	1,205,007	2,787,056	5,329,693	5,744,148
Per cent of change		−30.7		−42.5		+131.3		+7.8

Middle Atlantic States

New Jersey:								
Atlantic City	$29,800	0	17	0	$11,500	$25,619	$103,233	$86,951
Bayonne	0	$14,000	0	8	23,500	11,250	30,350	32,750
Belleville	4,000	16,985	1	4	3,700	1,100	14,513	25,125
Bloomfield	35,000	80,000	6	14	11,000	20,000	48,000	106,000
Camden	0	0	0	0	15,475	4,350	22,740	9,685
Clifton	21,000	27,600	5	6	2,100	77,150	28,850	106,075
East Orange	11,400	11,000	2	2	2,780	36,955	29,607	94,642
Elizabeth	28,000	147,000	6	48	9,000	24,100	37,000	171,100
Garfield	13,200	0	3	0	5,650	0	19,800	0
Hoboken	0	0	0	0	0	0	6,775	15,350
Irvington	63,000	15,437	15	2	9,850	19,750	77,514	38,152
Jersey City	49,000	43,900	20	11	51,765	19,435	199,300	110,885
Kearny	0	6,000	0	1	100	1,200	2,170	8,900
Montclair	27,600	44,500	4	5	14,600	27,450	45,870	83,295
Newark	111,500	34,000	17	4	78,294	54,705	419,516	217,222
New Brunswick	0	0	0	0	2,100	1,000	8,770	23,825
Orange	0	0	0	0	0	500	32,355	17,800
Passaic	0	0	0	0	14,000	3,200	38,215	23,925
Paterson	8,500	31,950	2	7	44,100	19,800	96,235	99,509
Perth Amboy	6,000	3,600	2	1	300	11,200	11,090	27,073
Plainfield	55,400	102,000	7	11	2,299	268,961	65,424	385,145
Trenton	0	50,000	0	0	275,097	4,846	303,734	65,246
Union City	0	35,000	0	17	25,700	0	63,485	46,785
West New York	0	0	0	0	0	1,000	12,450	15,625

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

Middle Atlantic States—Continued

State and city	New residential buildings: Estimated cost		New residential buildings: Families provided for in new buildings		New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
New York:								
Albany	$106,500	$118,500	15	13	$31,000	$3,500	$184,751	$179,372
Amsterdam	0	0	0	0	0	0	0	1,000
Auburn	0	9,500	0	2	1,300	950	5,600	11,800
Binghamton	15,500	16,300	5	4	10,418	2,125	73,190	32,998
Buffalo	55,800	110,000	20	39	559,542	264,417	651,939	489,630
Elmira	12,000	0	1	0	380	252,876	24,335	273,115
Jamestown	11,500	4,000	3	1	1,115	1,775	36,225	9,665
Kingston	4,500	26,000	1	5	1,475	15,375	15,645	48,240
Lockport	0	0	0	0	0	5,125	0	7,535
Mount Vernon	227,000	348,500	58	62	150,850	3,750	389,800	370,150
Newburgh	0	0	0	0	300	24,814	6,200	28,314
New Rochelle	330,200	110,100	21	8	211,350	3,025	556,325	118,904
New York City—								
The Bronx [1]	2,921,000	3,753,550	683	956	4,919,700	337,300	8,005,910	4,545,075
Brooklyn [1]	3,352,100	3,624,500	833	925	517,025	608,510	4,661,997	5,672,490
Manhattan [1]	6,565,000	0	841	0	5,845,513	9,133,360	19,249,878	10,128,210
Queens [1]	3,839,400	3,454,800	923	860	744,655	1,583,127	4,938,118	5,424,812
Richmond [1]	100,595	94,200	34	26	239,745	58,590	368,268	213,231
Niagara Falls	21,000	31,200	5	10	2,825	1,580	48,855	50,904
Poughkeepsie	21,500	23,500	2	4	8,650	330,200	37,995	358,300
Rochester	13,700	13,700	2	2	21,482	79,428	59,632	138,996
Schenectady	16,000	21,500	2	3	38,350	5,500	85,800	39,080
Syracuse	97,300	61,300	20	12	152,550	609,383	321,125	1,593,763
Troy	0	12,200	0	3	0	300	13,075	19,100
Utica	16,000	11,000	2	2	109,018	2,000	137,438	64,043
Watertown	0	0	0	0	150	0	2,525	4,775
White Plains	91,500	88,000	5	8	6,000	611,800	108,950	701,140
Yonkers	274,000	423,000	35	54	9,950	1,322,700	305,200	1,795,175
Pennsylvania:								
Allentown	8,000	8,000	2	2	4,850	11,900	22,000	36,600
Altoona	6,500	11,000	1	3	6,615	1,760	21,839	18,638
Bethlehem	0	5,000	0	1	600	16,600	10,819	21,660
Butler	4,000	3,500	1	1	8,000	3,500	17,650	7,300
Chester	5,000	0	2	0	121,550	1,450	144,450	2,275
Easton	0	0	0	0	0	10,372	12,595	13,372
Erie	30,200	60,900	8	14	6,225	16,970	55,510	96,625
Harrisburg	0	15,000	0	3	12,100	27,800	40,825	62,295
Hazleton	0	0	0	0	690	0	6,278	0
Johnstown	3,500	3,000	1	1	4,255	1,300	10,030	17,410
Lancaster	0	7,000	0	2	1,953	6,350	15,278	23,000
McKeesport	14,900	5,000	4	1	1,020	5,450	26,745	23,075
Nanticoke	6,000	0	1	0	0	0	14,000	9,000
New Castle	6,750	7,200	1	2	550	1,945	11,245	11,220
Norristown	0	0	0	0	258,756	1,075	261,604	6,084
Philadelphia	285,500	634,200	63	137	468,155	186,165	942,045	1,282,795
Pittsburgh	167,400	374,885	38	82	148,590	130,566	581,335	662,881
Reading	0	13,000	0	1	9,311	31,500	36,936	83,690
Scranton	4,700	4,000	1	1	8,173	4,590	69,253	18,665
Wilkes-Barre	0	7,225	0	2	6,950	20,232	11,768	40,387
Wilkinsburg	24,000	31,000	5	7	30,380	1,450	57,630	39,375
Williamsport	0	11,500	0	2	869	70	10,069	16,707
York	0	17,750	0	5	12,030	1,765	18,123	33,223
Total	19,121,945	14,237,482	3,746	3,407	15,297,875	16,377,891	44,403,799	36,657,064
Per cent of change		−25.5		−9.0		+7.1		−17.4

East North Central States

Illinois:								
Alton	$7,860	$36,950	3	1	$100	$93,073	$11,345	$142,043
Aurora	34,934	2,855	1	1	2,440	850	41,516	17,077
Belleville	4,000	10,500	1	3	300	15,100	6,880	29,800
Berwyn	12,000	51,500	2		0	4,100	12,000	58,450

[1] Application filed.

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

East North Central States—Continued

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
Illinois—Continued.								
Bloomington	$4,000	$13,000	1	2	$155,000	$70,000	$159,000	$84,000
Chicago	629,900	731,200	99	128	2,303,350	7,163,300	3,064,660	8,176,495
Cicero	5,000	0	1	0	6,000	159,125	53,070	161,875
Danville	7,600	0	2	0	1,000	550	12,015	3,650
Decatur	17,500	8,200	2	2	62,550	26,600	83,000	35,250
East St. Louis	13,100	44,100	6	9	3,850	3,900	17,950	51,200
Elgin	5,000	30,150	1	6	0	2,100	6,945	45,550
Evanston	11,000	45,000	1	5	1,000	2,500	27,000	71,250
Granite City	0	0	0	0	0	16,000	0	17,000
Joliet	70,000	46,000	10	8	0	20,000	76,500	79,500
Maywood	85,000	11,000	31	2	1,700	180,100	89,390	193,725
Moline	40,000	21,800	9	5	37,450	39,350	81,435	64,701
Oak Park	12,000	0	1	0	10,425	910	23,625	23,085
Peoria	96,200	76,500	24	15	0	3,225	124,750	90,125
Quincy	0	0	0	0	50,210	500	50,210	2,100
Rockford	11,000	39,500	4	11	1,600	3,500	35,635	57,750
Rock Island	5,500	12,000	2	3	985	228,720	11,980	248,361
Springfield	47,700	60,200	9	10	1,425	86,767	63,080	161,617
Waukegan	31,000	19,000	6	2	13,600	63,300	50,530	83,050
Indiana:								
Anderson	14,000	5,500	4	2	1,500	0	18,989	5,500
East Chicago	0	0	0	0	33,575	2,100	37,147	6,239
Elkhart	5,500	0	1	0	12,475	510	25,289	5,250
Evansville	16,200	55,300	5	11	8,270	7,890	36,213	74,908
Fort Wayne	19,050	87,650	3	18	19,382	227,637	66,379	343,554
Hammond	4,800	21,500	1	6	2,333,235	3,650	2,347,185	27,000
Indianapolis	171,550	255,225	28	53	75,749	653,652	306,310	987,375
Kokomo	3,000	0	1	0	225	75,010	31,910	76,210
Lafayette	2,500	4,000	1	2	7,500	2,000	13,000	6,000
Marion	0	0	0	0	300	5,500	7,344	7,690
Michigan City	2,000	6,500	1	1	5,100	525	13,675	7,725
Mishawaka	0	0	0	0	560	35,400	2,575	36,950
Muncie	3,000	2,700	1	1	1,450	102,325	9,730	112,327
Richmond	7,000	2,500	2	1	0	21,500	10,500	28,200
South Bend	18,400	0	6	0	23,530	31,055	47,835	37,471
Terre Haute	6,000	1,500	2	1	4,105	1,640	12,535	6,285
Michigan:								
Ann Arbor	11,400	54,500	2	6	7,800	1,575	24,612	74,285
Bay City	10,000	9,000	3	2	2,335	17,625	116,590	34,205
Dearborn	189,220	140,424	56	40	480,349	130,690	671,009	277,314
Detroit	1,135,290	1,152,300	167	244	3,485,216	622,391	4,996,059	2,024,185
Flint	41,022	48,696	8	9	2,730	3,642	57,339	95,878
Grand Rapids	26,300	4,000	8	1	28,325	8,555	95,725	33,970
Hamtramck	0	0	0	0	4,000	500	4,700	6,510
Highland Park	0	0	0	0	300	800	1,400	3,750
Jackson	1,600	15,900	1	3	500	4,050	4,755	25,455
Kalamazoo	25,500	21,400	8	7	439,325	3,990	473,409	35,815
Lansing	19,900	22,400	4	6	2,670	4,242	36,970	31,192
Muskegon	10,600	3,000	4	1	300	550	14,358	8,945
Pontiac	1,600	0	1	0	63,920	94,425	75,920	101,450
Port Huron	4,500	2,300	3	1	0	2,500	39,700	6,225
Saginaw	4,000	400	2	1	76,705	19,430	85,527	23,250
Wyandotte	19,100	18,600	5	5	37,554	68,000	59,854	88,900
Ohio:								
Akron	24,950	33,700	11	7	45,394	44,327	107,819	112,527
Ashtabula	0	0	0	0	150	643	3,800	5,708
Canton	0	0	0	0	1,225	41,195	17,461	62,715
Cincinnati	297,300	428,750	61	75	199,860	143,825	544,000	1,502,875
Cleveland	185,700	236,500	30	47	943,900	203,650	1,366,500	2,416,875
Cleveland Heights	50,000	102,800	7	14	1,430	11,250	58,030	127,025
Columbus	182,000	158,900	36	28	141,200	90,900	365,200	290,900
Dayton	29,300	49,000	6	9	19,865	23,316	73,869	102,791
East Cleveland	0	0	0	0	14,060	3,230	14,460	5,380
Elyria	6,200	0	3	0	9,585	195	42,645	1,645
Hamilton	6,975	4,800	2	2	2,800	375	22,390	7,565
Lakewood	23,000	81,800	2	19	1,660	83,025	31,730	169,280
Lima	0	6,200	0	2	675	300	5,150	10,275
Lorain	5,500	21,425	2	6	690	65,300	7,690	95,475
Mansfield	8,000	28,000	2	6	174,425	7,660	190,226	38,694

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

East North Central States—Continued

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
Ohio—Continued.								
Marion	0	0	0	0	$150	$300	$1,450	$2,850
Massillon	0	0	0	0	0	192	1,875	2,042
Middletown	0	$5,800	0	1	720	1,275	2,320	12,675
Newark	$3,700	5,400	1	2	0	1,700	4,600	7,100
Norwood	0	44,500	0	16	0	1,325	80	46,150
Portsmouth	0	0	0	0	90	376,015	12,187	378,540
Springfield	0	23,100	0	6	650	12,310	3,685	44,173
Steubenville	6,500	0	2	0	400	1,500	8,100	3,250
Toledo	55,700	65,500	12	13	329,619	117,452	430,127	225,827
Warren	0	9,800	0	3	875	6,000	9,015	29,060
Youngstown	24,300	25,100	6	8	24,740	9,805	63,301	46,740
Wisconsin:								
Appleton	8,800	13,300	2	3	475	175,654	9,950	191,779
Eau Claire	0	4,500	0	7	18,800	200	20,700	6,200
Fond du Lac	0	6,725	0	5	225	9,400	1,200	19,765
Green Bay	132,800	16,500	41	4	78,125	625	210,925	78,050
Kenosha	10,000	0	1	0	250	2,000	16,950	9,730
Madison	30,500	32,950	6	8	2,350	8,575	51,405	56,328
Milwaukee	172,000	566,400	60	121	335,380	99,806	613,610	758,670
Oshkosh	0	4,000	0	2	9,500	10,809	12,177	20,603
Racine	19,700	27,300	4	4	13,625	6,745	44,871	44,870
Sheboygan	4,100	9,400	1	2	575	760	80,863	22,095
Superior	8,300	1,800	3	1	26,355	250	36,665	12,480
West Allis	19,500	12,000	4	4	1,200	3,000	24,850	23,800
Total	4,238,151	5,220,700	849	1,067	12,212,993	11,901,878	18,358,935	21,530,172
Per cent of change		+23.2		+25.7		−2.5		+17.3

West North Central States

Iowa:								
Burlington	0	$900	0	1	$50,275	$7,750	$52,225	$13,061
Cedar Rapids	0	28,000	0	3	9,265	12,570	36,370	58,639
Council Bluffs	$3,000	10,000	1	4	30,500	11,000	44,500	34,000
Davenport	32,750	34,300	9	8	150	21,042	41,695	64,060
Des Moines	59,100	101,700	12	22	2,145	25,555	64,515	136,610
Dubuque	3,000	4,000	1	1	6,500	500	13,294	29,665
Ottumwa	16,000	11,000	4	2	14,250	5,600	30,750	21,700
Sioux City	36,200	200,000	9	41	6,200	4,245	46,850	205,795
Waterloo	11,400	10,300	4	4	9,000	29,950	29,700	50,635
Kansas:								
Hutchinson	23,800	7,900	7	3	6,130	1,500	32,800	11,775
Kansas City	24,300	19,650	11	8	545	13,258	31,745	36,978
Topeka	9,150	20,950	5	8	97,060	17,865	119,760	44,340
Wichita	125,950	143,505	38	46	57,095	32,095	202,600	183,535
Minnesota:								
Duluth	8,386	14,800	2	3	1,050	10,615	30,721	66,728
Minneapolis	317,140	319,925	68	75	34,080	171,530	407,255	576,060
St. Paul	104,160	38,040	23	8	452,784	402,242	595,604	490,051
Missouri:								
Joplin	6,000	0	2	0	650	5,250	9,183	11,450
Kansas City	127,000	114,500	28	28	29,450	51,950	170,800	229,200
Springfield	5,100	22,200	2	12	3,225	5,750	18,225	40,400
St. Joseph	13,400	1,600	5	2	960	995	16,860	12,415
St. Louis	246,900	394,600	67	110	1,520,310	1,178,008	1,943,275	1,688,340
Nebraska:								
Lincoln	31,500	22,300	6	6	5,705	22,438	53,580	52,733
Omaha	48,200	111,100	14	26	28,875	810,246	87,225	937,896
North Dakota:								
Fargo	8,860	0	2	0	0	0	14,505	3,500
South Dakota								
Sioux Falls	36,875	60,250	8	13	12,875	16,025	51,000	89,400
Total	1,298,171	1,691,520	328	434	2,379,109	2,857,979	4,145,037	5,088,966
Per cent of change		+30.3		+32.3		+20.1		+22.8

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

South Atlantic States

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931
Delaware:								
Wilmington	$46,000	$93,350	10	17	$138,400	$20,596	$257,116	$393,318
District of Columbia:								
Washington	666,780	4,165,375	103	600	758,835	711,050	2,896,341	5,496,930
Florida:								
Jacksonville	20,500	55,600	8	13	18,155	20,755	80,340	109,965
Miami	34,300	13,350	8	10	39,735	64,860	107,775	110,926
Orlando	6,400	4,750	4	5	575	1,600	19,825	27,875
St. Petersburg	44,700	13,300	9	3	7,500	1,000	60,100	24,950
Tampa	4,600	61,950	5	9	5,740	37,550	35,870	112,302
Georgia:								
Atlanta	105,100	122,060	50	43	44,967	67,273	266,686	271,823
Augusta	2,877	6,700	3	4	370	16,208	15,383	34,445
Columbus	6,000	4,750	2	3	10,535	5,000	18,285	13,205
Savannah	10,000	28,600	3	8	4,900	740	16,200	32,840
Maryland:								
Baltimore	564,000	643,000	176	210	83,300	1,197,300	1,129,100	2,297,900
Cumberland	3,500	4,000	1	2	2,475	450	8,175	5,275
Hagerstown	3,800	29,500	2	7	625	1,655	4,605	31,505
North Carolina:								
Asheville	500	500	1	1	0	6,600	1,825	27,455
Charlotte	47,000	54,450	12	15	3,200	2,185	66,607	67,526
Durham	20,400	27,000	4	8	1,740	1,500	56,270	31,439
Greensboro	3,000	17,086	1	3	230	7,365	11,495	32,217
High Point	347,185	22,900	76	5	185,775	318,500	532,960	346,800
Raleigh	0	24,800	0	2	3,551	1,025	5,751	35,200
Wilmington	8,000	12,500	4	4	1,000	500	21,900	16,800
Winston-Salem	30,000	0	1	0	1,490	1,480	43,265	15,985
South Carolina:								
Charleston	3,450	20,000	4	4	18,585	8,135	28,898	45,800
Columbia	44,000	24,000	13	10	274,700	9,175	323,875	39,605
Greenville	5,700	42,550	3	11	300	3,340	15,575	52,915
Spartanburg	8,900	2,000	6	2	253,500	100	263,900	4,225
Virginia:								
Newport News	8,658	2,700	4	2	14,675	2,363	96,819	15,420
Norfolk	66,800	47,700	29	12	12,000	9,481	89,535	158,826
Petersburg	12,000	0	1	0	10,130	400	29,070	1,100
Portsmouth	7,600	18,000	3	6	14,822	5,750	37,597	31,380
Richmond	63,100	50,100	13	10	48,290	20,357	181,485	121,290
Roanoke	5,600	5,800	2	2	4,300	6,955	12,975	26,206
West Virginia:								
Clarksburg	0	3,000	0	1	13,770	2,200	26,470	14,810
Huntington	0	6,000	0	1	9,150	600	10,950	6,890
Parkersburg	12,500	8,000	3	3	84,755	7,133	108,555	26,133
Wheeling	4,500	14,000	1	2	40,051	87,000	52,526	105,176
Total	2,217,450	5,649,371	565	1,038	2,112,126	2,648,181	6,934,104	10,186,457
Per cent of change		+154.8		+83.7		+25.4		+46.9

South Central States

Alabama:								
Birmingham	$22,710	$6,300	12	7	$273,423	$109,223	$381,859	$163,360
Mobile	11,350	8,500	9	7	9,800	2,500	27,696	26,000
Montgomery	40,300	41,800	25	22	3,465	15,350	62,873	67,670
Arkansas:								
Little Rock	25,650	8,850	11	4	53,390	16,595	89,995	52,345
Kentucky:								
Ashland	0	4,300	0	3	100,000	300	102,800	25,100
Covington	14,800	12,800	4	5	1,000	2,600	18,325	17,050
Louisville	56,500	153,500	14	21	507,470	167,170	603,920	388,495
Newport	0	0	0	0	750	300	1,250	1,800
Paducah	3,000	1,900	2	3	0	1,500	3,350	5,000

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

South Central States—Continued

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February 1931
Louisiana:								
Baton Rouge	$18,620	$16,627	8	15	$4,590	$27,410	$32,583	$131,268
Monroe [1]	----------	34,472	-------	21	----------	267,075	----------	304,547
New Orleans	56,200	96,100	20	27	6,235	34,334	108,043	289,915
Shreveport	20,505	38,008	13	15	80,209	6,366	125,242	61,077
Oklahoma:								
Enid	24,000	24,700	8	8	3,000	1,500	28,400	26,200
Oklahoma City	434,600	456,700	160	184	3,537,320	1,973,100	4,006,655	2,448,020
Okmulgee	0	0	0	0	0	4,000	2,350	4,396
Tulsa	344,765	183,750	85	44	78,928	125,335	540,313	347,613
Tennessee:								
Chattanooga	27,700	38,805	12	8	12,800	25,100	65,544	123,830
Knoxville	21,200	14,940	9	9	19,410	57,497	44,960	90,071
Memphis	56,550	73,450	17	30	322,325	68,510	462,075	224,167
Nashville	34,150	81,200	16	29	65,435	152,725	178,691	250,429
Texas:								
Amarillo	64,970	88,500	23	16	442,395	269,325	507,365	371,174
Austin	62,441	98,699	34	53	53,532	417,526	136,871	528,181
Beaumont	17,700	15,403	7	10	20,772	2,825	67,781	40,777
Corpus Christi	20,725	10,950	25	9	2,200	1,650	33,040	18,705
Dallas	312,350	188,425	120	92	58,720	75,980	438,094	349,175
El Paso	44,275	71,775	13	24	27,277	4,581	86,248	97,709
Fort Worth	215,234	171,925	64	56	440,835	395,393	703,157	607,430
Galveston	16,400	24,402	10	10	4,145	28,215	38,991	78,912
Houston	834,676	759,300	183	190	144,900	504,775	999,701	1,299,750
Port Arthur	23,879	42,199	9	23	2,455	4,915	54,095	54,923
San Angelo	9,400	5,585	6	7	17,485	5,150	32,125	13,100
San Antonio	146,625	75,875	78	55	21,075	130,440	212,965	243,168
Waco	17,963	33,787	8	9	400	23,333	28,383	69,594
Wichita Falls	1,000	0	1	0	3,210	700	8,710	5,290
Total	3,000,238	2,849,055	1,006	995	6,318,951	4,656,223	10,234,450	8,521,693
Per cent of change	----------	−5.0	-------	−1.1	----------	−26.3	----------	−16.7

Mountain and Pacific States

Arizona:								
Phoenix	$96,400	$61,900	37	29	$57,560	$137,050	$159,845	$205,560
Tucson	50,500	38,750	15	12	27,770	4,375	117,024	50,452
California:								
Alameda	20,300	22,500	4	5	39,450	10,758	104,721	40,443
Alhambra	61,650	67,600	16	30	19,750	3,150	87,800	72,300
Bakersfield	20,040	36,750	9	9	9,535	3,135	38,760	53,575
Berkeley	57,150	72,700	12	13	3,165	59,408	90,060	156,709
Fresno	42,500	41,700	12	11	19,171	28,245	83,127	120,720
Glendale	138,600	102,450	40	23	94,050	26,725	244,210	142,165
Long Beach	208,425	252,950	83	89	187,535	55,730	446,300	344,365
Los Angeles	1,565,645	1,624,032	561	481	1,579,489	1,475,329	3,790,283	3,677,072
Oakland	502,075	232,025	157	68	89,240	691,901	663,172	989,460
Pasadena	389,035	64,225	19	19	1,058,071	15,194	1,516,175	162,566
Sacramento	108,750	89,000	22	16	73,925	473,891	218,143	607,781
San Bernardino	27,930	51,450	10	17	500	5,674	37,621	64,726
San Diego	183,000	245,550	56	65	360,782	160,179	609,862	466,826
San Francisco	391,600	1,017,037	100	241	1,202,526	513,740	1,829,345	1,690,363
Santa Ana	60,291	54,582	17	11	149,210	4,000	220,357	64,472
Stockton	29,700	29,800	8	7	95,863	57,740	139,838	107,075
Vallejo	1,000	2,400	1	1	1,600	22,720	8,332	32,435
Colorado:								
Colorado Springs	2,600	13,100	2	2	840	15,525	24,380	54,210
Denver	168,000	320,500	30	72	233,200	55,650	494,100	494,300
Pueblo	12,100	0	5	0	15,225	12,830	35,329	20,746
Montana:								
Butte	0	0	0	0	0	200	2,265	250
Great Falls	8,400	7,600	3	5	1,385	47,320	17,950	71,795

[1] Schedule received for the first time, February, 1931; not included in totals.

TABLE 8.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 342 PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1931—Continued

Mountain and Pacific States—Continued

State and city	New residential buildings				New nonresidential buildings, estimated cost		Total construction (including alterations and repairs), estimated cost	
	Estimated cost		Families provided for in new buildings					
	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February, 1931	January, 1931	February 1931
New Mexico:								
Albuquerque	$86,000	$72,392	24	18	$8,150	$514,335	$105,550	$620,084
Oregon:								
Portland	227,450	355,300	55	75	275,770	167,515	628,580	663,400
Salem	6,000	5,450	3	3	23,485	4,095	46,949	19,889
Utah:								
Ogden	0	1,000	0	1	0	450	6,000	30,140
Salt Lake City	25,450	151,750	6	54	12,635	58,362	51,584	231,282
Washington:								
Bellingham	19,300	15,000	6	6	4,625	320	51,285	24,265
Everett	12,600	7,000	5	3	6,115	755	21,025	21,610
Seattle	567,310	505,250	176	142	285,477	264,750	1,015,872	879,825
Spokane	37,200	66,575	10	21	15,980	20,635	82,980	199,595
Tacoma	42,000	24,000	14	9	405,540	155,055	483,245	202,870
Total	5,169,001	5,652,318	1,518	1,558	6,357,619	5,066,741	13,472,069	12,583,326
Per cent of change		+9.4		+2.6		−20.3		−6.6
Hawaii								
Hawaii:								
Honolulu	$118,277	$74,335	59	39	$49,726	$29,949	$215,776	$129,693
Per cent of change		−37.2		−33.9		−39.8		−39.9

Building Permits in Principal Cities in 1930: By Types of Building

Introduction and Summary

THE Bureau of Labor Statistics received reports of building permits issued during the calendar year 1930 from 311 of the 319 cities of the United States having a population of 25,000 or over. It was necessary to send agents of the bureau to only six cities to compile reports from the local records, all of the other 305 cities having replied to questionnaires sent by mail. The eight omitted cities are small and six of these have no building code. In collecting reports for 1922, agents of the bureau had to visit 33⅓ per cent of the cities to compile the data from local records; this proportion was reduced to 6.1 per cent in 1928, to 2.6 per cent in 1929, and to 1.9 per cent in 1930. Thus it will be seen that local building officials are now fully alive to the value of these figures and are lending their hearty assistance to the bureau. The States of Illinois, Massachusetts, New Jersey, New York, and Pennsylvania, through their departments of labor, are cooperating with the United States Bureau of Labor Statistics in the collection of these data.

In studying the following tables it should be remembered that the costs shown are for the costs of the buildings only and do not include

cost of land. The cost is estimated by the prospective builder at the time of applying for his permit to build and is recorded on his application. Furthermore, the costs are for buildings in the corporate limits of the cities enumerated. Much building in the suburbs of large cities is therefore not included in the figures shown.

Table 1 shows the total number of new buildings and the estimated cost of the different kinds of new buildings for which permits were issued in the 311 cities from which reports were received for the year 1930, the per cent that each kind forms of the total number, the per cent that the cost of each kind forms of the total cost, and the average cost per building.

TABLE 1.—NUMBER AND COST OF NEW BUILDINGS AS STATED BY PERMITS ISSUED IN 311 CITIES, 1930, BY KIND OF BUILDING

Kind of building	New buildings for which permits were issued				
	Number	Per cent	Estimated cost		
			Amount	Per cent	Average per building
Residential buildings					
1-family dwellings	61,656	29.3	$306,185,802	20.3	$4,966
2-family dwellings	7,187	3.4	53,985,588	3.6	7,512
1-family and 2-family dwellings with stores combined	874	.4	6,985,654	.5	7,993
Multifamily dwellings	3,019	1.4	193,174,494	12.8	63,986
Multifamily dwellings with stores combined	205	.1	12,249,912	.8	59,756
Hotels	79	(1)	24,777,624	1.6	313,641
Lodging houses	11	(1)	219,000	(1)	19,909
All others	170	.1	28,322,912	1.9	166,605
Total	73,201	34.8	625,900,986	41.6	8,550
Nonresidential buildings					
Amusement buildings	1,450	.7	43,375,341	2.9	29,914
Churches	698	.3	29,575,418	2.0	42,372
Factories and workshops	2,679	1.3	109,491,239	7.3	40,870
Public garages	1,948	.9	26,827,939	1.8	13,772
Private garages	97,458	46.4	33,723,157	2.2	346
Service stations	5,778	2.7	21,869,134	1.5	3,785
Institutions	272	.1	58,258,336	3.9	214,185
Office buildings	703	.3	160,741,404	10.7	228,651
Public buildings	434	.2	85,820,846	5.7	197,744
Public works and utilities	603	.3	45,237,457	3.0	75,021
Schools and libraries	754	.4	126,908,372	8.4	168,313
Sheds	10,725	5.1	3,864,937	.3	360
Stables and barns	267	.1	438,425	(1)	1,642
Stores and warehouses	8,916	4.2	127,832,430	8.5	14,337
All other	4,255	2.0	5,913,967	.4	1,390
Total	136,940	65.2	879,878,402	58.4	6,425
Grand total	210,141	100.0	1,505,779,388	100.0	7,166

[1] Less than one-tenth of 1 per cent.

Permits were issued during 1930 in these 311 cities for 210,141 buildings. Of this number, 73,201, or 34.8 per cent, were residential buildings and 136,940, or 65.2 per cent, were nonresidential buildings. Of the residential buildings, one-family dwellings were the most numerous. This class of buildings comprised 29.3 per cent of the total number of buildings for which permits were issued. Only two other classes of residential buildings, two-family dwellings and multifamily dwellings, accounted for more than 1 per cent of the total number of buildings. Private garages were by far the most numerous class of nonresidential buildings, accounting for 46.4 per cent of all buildings for which permits were issued in these cities. Of the other important classes of nonresidential buildings, stores were the most numerous, followed by factory buildings. In these 311 cities permits were issued for 1,450 amusement buildings, but for only 698 churches.

The total estimated cost of all new buildings for which permits were issued during 1930 in these cities was $1,505,779,388. For the first time since the collection of these figures by the bureau the estimated cost of new nonresidential buildings exceeded the indicated expenditures for new residential buildings. Residential buildings accounted for 41.6 per cent of the total estimated cost of all buildings and new nonresidential buildings for 58.4 per cent.

One-family dwellings accounted for a larger proportion of the total cost than any other class of buildings, while multifamily dwellings were next in rank. Office buildings accounted for a larger percentage of the total expenditures than any other class of nonresidential buildings, followed in order by stores and warehouses and schools and libraries. Public buildings, buildings for public works and utilities, schools and libraries, and institutions are usually erected from public funds, either National, State, county, or city. These classes of buildings together accounted for $316,225,011, or 21 per cent of the total estimated cost of all buildings for which permits were issued during the calendar year 1930; in 1929, only 12.6 per cent went for these types of all buildings.

The average cost per building of the new buildings for which permits were issued during 1930 in these cities was $7,166. The average cost of the new residential buildings was $8,550, and of the new nonresidential buildings, $6,425. Omitting private garages, sheds, and stables and barns, the average cost of the remaining nonresidential buildings was $29,549 per building. Hotels showed a greater average cost than any other kind of building. In the nonresidential group, office buildings had the highest cost per building, followed in order by institutional buildings and public buildings.

Building Trend, 1929 and 1930

TABLE 2 shows the number and cost of the different kinds of buildings for 311 identical cities from which reports were received in 1929 and 1930 and the per cent of increase or decrease in 1930 as compared with 1929:

TABLE 2.—NUMBER AND COST OF NEW BUILDINGS AND OF ALTERATIONS AND REPAIRS FOR WHICH PERMITS WERE ISSUED IN 311 IDENTICAL CITIES, 1929 AND 1930, BY KIND OF BUILDING

Kind of building	Buildings for which permits were issued				Per cent of increase (+) or decrease (−) in 1930 compared with 1929	
	1929		1930			
	Number	Cost	Number	Cost	Number	Cost
Residential buildings						
1-family dwellings	104,798	$516,296,140	61,656	$306,185,802	−41.2	−40.7
2-family dwellings	12,990	99,140,941	7,187	53,985,588	−44.7	−45.5
1-family and 2-family dwellings with stores combined	1,501	14,262,073	874	6,985,654	−41.8	−51.0
Multifamily dwellings	6,662	490,957,201	3,019	193,174,494	−54.7	−60.7
Multifamily dwellings with stores combined	565	34,919,508	205	12,249,912	−63.7	−64.9
Hotels	275	284,604,413	79	24,777,624	−71.3	−91.3
Lodging houses	23	428,569	11	219,000	−52.2	−48.9
All other	138	37,011,151	170	28,322,912	+23.2	−23.5
Total residential buildings	126,952	1,477,619,996	73,201	625,900,986	−42.3	−57.6
Nonresidential buildings						
Amusement buildings	748	43,215,396	1,450	43,375,341	+93.9	+0.4
Churches	855	40,881,577	698	29,575,418	−18.4	−27.7
Factories and workshops	3,927	141,620,127	2,679	109,491,239	−31.8	−22.7
Public garages	4,071	49,198,147	1,948	26,827,939	−52.1	−45.5
Private garages	135,637	48,637,185	97,458	33,723,157	−28.1	−30.7
Service stations	4,207	19,928,471	5,778	21,869,134	+37.3	+9.7
Institutions	274	75,702,762	272	58,258,336	−0.7	−2.3
Office buildings	1,136	240,950,145	703	160,741,404	−38.1	−33.3
Public buildings	327	87,553,812	434	85,820,846	+32.7	−2.0
Public works and utilities	629	45,443,758	603	45,237,457	−4.1	−0.5
Schools and libraries	753	128,897,346	754	126,908,372	+0.1	−1.5
Sheds	10,649	4,456,039	10,725	3,864,937	+0.7	−13.3
Stables and barns	324	968,941	267	438,425	−17.6	−54.8
Stores and warehouses	12,085	254,474,954	8,916	127,832,430	−26.2	−49.8
All other	4,488	8,751,957	4,255	5,913,967	−5.2	−32.4
Total nonresidential buildings	180,110	1,190,680,617	136,940	879,878,402	−24.0	−26.1
Total new buildings	307,062	2,668,300,613	210,141	1,505,779,388	−31.6	−43.6
Additions, alterations, and repairs	276,188	367,475,292	257,289	260,365,278	−6.8	−29.1
Grand total, all building	583,250	3,035,775,905	467,430	1,766,144,666	−19.9	−41.8

Comparing permits issued in these 311 cities during 1930 with those issued during 1929, there was a decrease of 19.9 per cent in the number of total building operations and a decrease of 41.8 per cent in their estimated cost. New buildings decreased 31.6 per cent in number and 43.6 per cent in estimated cost, while additions, alterations, and repairs decreased 6.8 per cent in number and 29.1 per cent in estimated cost.

Permits issued for residential buildings show a decrease of 42.3 per cent in number and a decrease of 57.6 per cent in indicated expenditures. All classes of residential buildings showed a decrease in estimated cost, ranging from 23.5 per cent for "All other" resi-

dential buildings to 91.3 per cent for hotels. The number of buildings in the residential group showed decreases in all classes (except in "All other" residential buildings, for which there was an increase of 23.2 per cent), the decreases ranging from 41.2 per cent for 1-family dwellings to 71.3 per cent for hotels.

New nonresidential buildings showed a much smaller rate of decrease in 1930 as compared with 1929 than did new residential buildings, having decreased only 24 per cent in number and 26.1 per cent in estimated cost. Ten classes of buildings in the nonresidential group showed decreases in number ranging from 0.7 per cent for institutions to 52.1 per cent for public garages. Increases in number were registered in five classes of buildings in the nonresidential group, these increases ranging from 0.1 per cent for schools and libraries to 93.9 per cent for amusement buildings. Only two classes of buildings in the nonresidential group showed increases in the indicated expenditure, namely, amusement buildings and service stations; the decreases for the other classes of nonresidential buildings ranged from 0.5 per cent for public works and utilities to 54.8 per cent for stables and barns. It will be noted that the estimated expenditures for public buildings, public works and utilities, and schools and libraries showed very small percentages of decreases in indicated expenditures. On the other hand, commercial building, such as stores and warehouses, factories and workshops, and office buildings, showed relatively large percentages of decrease.

Families Provided for, 1929 and 1930

TABLE 3 shows the number and per cent of families provided for by each of the different kinds of dwellings for which permits were issued in 311 identical cities during the calendar years 1929 and 1930:

TABLE 3.—NUMBER AND PER CENT OF FAMILIES TO BE HOUSED IN NEW DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 311 IDENTICAL CITIES, 1929 AND 1930, BY KIND OF DWELLING

Kind of dwelling	Number of new buildings for which permits were issued		Families provided for			
			Number		Per cent	
	1929	1930	1929	1930	1929	1930
1-family dwellings	104,798	61,656	104,798	61,656	41.5	47.2
2-family dwellings	12,990	7,187	25,980	14,374	10.3	11.0
1-family and 2-family dwellings with stores combined	1,501	874	2,324	1,195	.9	.9
Multifamily dwellings	6,662	3,019	111,910	50,299	44.3	38.5
Multifamily dwellings with stores combined	565	205	7,754	2,979	3.1	2.3
Total	126,516	72,941	252,766	130,503	100.0	100.0

During 1930 permits were issued for 72,941 dwelling houses of various kinds to house 130,503 families. This compares with 252,766 families housed by the 126,516 dwellings for which permits were issued in these 311 cities during 1929, a decrease of 48.4 per cent in the number of families provided for.

One-family dwellings provided 47.2 per cent of the living quarters for which permits were issued during 1930 as compared with 41.5 per cent of the family dwelling units provided during 1929. Multifamily

dwellings, in contrast, showed a decrease in the per cent of dwelling units provided, dropping from 44.3 per cent of the total in 1929 to 38.5 per cent in 1930. The per cent of families provided for, to be housed in two-family dwellings, rose from 10.3 in 1929 to 11 in 1930, while the proportion to be housed in one and two family dwellings with stores combined remained the same for both years.

The size of apartment houses was practically the same in both years, the average number of families per building being 16.8 in 1929 and 16.7 in 1930.

The average cost of these apartment houses during 1930, as shown in Table 1, was $63,986. The average cost of the apartment houses for which permits were issued during 1929 was $73,695.

Per Capita Expenditure for Buildings

TABLE 4 shows for 1930 the per capita expenditure for new buildings, new housekeeping dwellings, repairs and alterations, and for all kinds of buildings in each of the 311 cities for which reports were received for the calendar year 1930, the total number of families provided for, and the ratio of families provided for to each 10,000 of population in these 311 cities.

Indicated expenditure for all building operations in these 311 cities during the calendar year 1930 was $1,766,144,666. The total population of these cities was 47,091,551; thus the per capita expenditure for all building operations was $37.51. Of this amount, $31.98 was for new buildings and $5.53 was for repairs and alterations. Of the amount spent for new buildings, $12.16 per capita was for housekeeping dwellings.

TABLE 4.—PER CAPITA EXPENDITURES FOR NEW BUILDINGS AND FOR REPAIRS, AND FAMILIES PROVIDED FOR, IN 311 CITIES, 1930

City and State	Population, census of 1930	Families provided for		Per capita expenditure				Per capita expenditure for housekeeping dwellings only
		Number	Per 10,000 population	For new buildings	For repairs and additions	Total	Rank of city	
Akron, Ohio	253,653	372	14.7	$31.18	$3.42	$34.60	95	$7.67
Alameda, Calif.	34,392	145	42.2	20.01	8.52	28.53	139	13.56
Albany, N. Y.	127,358	311	24.4	59.32	11.38	70.70	18	22.26
Allentown, Pa.	92,052	97	10.5	17.48	7.18	24.66	173	9.33
Alton, Ill.	30,142	58	19.2	26.86	9.52	36.38	82	7.38
Altoona, Pa.	81,503	75	9.2	13.42	3.38	16.80	245	5.86
Amsterdam, N. Y.	34,683	26	7.5	27.86	.74	28.60	138	3.69
Anderson, Ind.	39,788	51	12.8	13.38	1.95	15.34	254	3.41
Asheville, N. C.	50,167	23	4.6	5.43	3.38	8.82	294	1.49
Ashtabula, Ohio	23,301	29	12.4	11.14	3.66	14.80	259	4.54
Atlanta, Ga.	266,557	714	26.8	25.82	5.86	31.69	113	6.30
Atlantic City, N. J.	65,748	29	4.4	6.29	15.01	21.30	196	2.27
Auburn, N. Y.	36,736	39	10.6	28.95	1.92	30.87	119	13.51
Augusta, Ga.	60,204	124	20.6	8.41	3.48	11.88	274	5.58
Aurora, Ill.	46,568	82	17.6	24.20	5.90	30.10	125	8.84
Austin, Tex.	53,118	493	92.8	55.88	6.90	62.79	26	20.03
Baltimore, Md.	789,921	1,484	18.8	25.40	9.82	35.22	93	9.17
Bangor, Me.	28,749	46	16.0	18.53	.96	19.49	217	5.39
Baton Rouge, La.	31,465	73	23.2	21.96	5.31	27.27	151	6.11
Battle Creek, Mich.	43,301	72	16.6	89.18	2.36	91.54	11	6.27
Bay City, Mich.	47,350	54	11.4	17.15	9.67	26.82	158	5.82
Bayonne, N. J.	85,848	104	12.1	7.91	1.32	9.22	293	2.69
Beaumont, Tex.	57,483	267	46.4	30.75	14.59	45.34	45	12.57
Belleville, Ill.	28,308	107	37.8	25.57	.89	26.46	161	17.02
Bellingham, Wash.	30,602	108	35.3	20.36	3.93	24.29	176	8.81
Berkeley, Calif.	81,543	345	42.3	30.35	6.27	36.62	81	17.21

TABLE 4.—PER CAPITA EXPENDITURES FOR NEW BUILDINGS AND FOR REPAIRS, AND FAMILIES PROVIDED FOR, IN 311 CITIES, 1930—Continued

City and State	Population, census of 1930	Families provided for		Per capita expenditure				Per capita expenditure for housekeeping dwellings only
		Number	Per 10,000 population	For new buildings	For repairs and additions	Total	Rank of city	
Bethlehem, Pa	57,773	69	11.9	$15.77	$2.67	$18.44	231	$6.56
Binghamton, N. Y	76,601	161	21.0	21.94	7.50	29.44	130	8.45
Birmingham, Ala	257,657	166	6.4	6.69	2.70	9.39	292	1.48
Bloomfield, N. J	38,070	344	90.4	58.23	6.38	64.62	24	38.97
Bloomington, Ill	30,915	68	22.0	21.11	1.55	22.66	184	12.10
Boston, Mass	783,451	1,415	18.1	24.45	9.90	34.34	96	7.95
Bridgeport, Conn	147,206	353	24.0	14.81	2.98	17.79	236	9.83
Brockton, Mass	63,695	69	10.8	12.77	4.71	17.48	239	6.21
Brookline, Mass	47,488	231	48.6	68.37	9.27	77.64	14	48.32
Buffalo, N. Y	572,217	1,072	18.7	23.54	2.37	25.91	166	6.11
Burlington, Iowa	26,719	18	6.7	23.77	6.69	30.46	122	3.10
Butler, Pa	23,568	21	8.9	5.99	2.37	8.36	297	2.68
Butte, Mont	39,540	67	16.9	9.23	.79	10.02	287	.57
Cambridge, Mass	113,650	159	14.0	87.54	9.80	97.34	9	6.36
Camden, N. J	117,172	159	13.6	18.25	3.79	22.04	189	4.16
Canton, Ohio	105,524	95	9.0	13.04	1.98	15.02	258	4.75
Cedar Rapids, Iowa	56,078	91	16.2	27.75	8.49	36.24	85	6.16
Central Falls, R. I	25,928	22	8.5	4.79	1.56	6.35	307	2.53
Charleston, S. C	62,419	56	9.0	15.15	2.52	17.67	238	2.58
Charleston, W. Va	60,411	217	35.9	109.68	4.21	113.89	4	13.18
Charlotte, N. C	82,645	317	38.4	27.04	4.27	31.31	116	15.07
Chattanooga, Tenn	119,539	223	18.7	19.30	5.24	24.55	175	6.19
Chelsea, Mass	44,827	6	1.3	3.02	1.50	4.52	310	.59
Chester, Pa	58,963	34	5.8	15.98	3.34	19.32	221	2.11
Chicago, Ill	3,373,753	2,741	8.1	23.86	1.56	25.42	168	5.68
Chicopee, Mass	43,981	57	13.0	6.42	1.65	8.07	298	3.80
Cicero, Ill	65,776	57	8.7	13.79	3.20	16.99	244	5.18
Cincinnati, Ohio	449,331	1,693	37.7	70.16	3.64	73.80	16	22.39
Clarksburg, W. Va	28,863	18	6.2	14.77	3.05	17.82	235	1.44
Cleveland, Ohio	901,482	1,176	13.0	30.22	5.90	36.11	86	6.60
Clifton, N. J	45,673	247	54.1	31.20	1.48	32.68	106	23.82
Colorado Springs, Colo	33,223	56	16.9	22.42	5.46	27.88	146	7.51
Columbia, S. C	50,195	152	30.3	34.02	3.89	37.91	71	9.38
Columbus, Ga	43,122	91	21.1	14.17	2.33	16.50	248	6.32
Columbus, Ohio	289,056	575	19.9	15.92	3.51	19.43	219	11.00
Council Bluffs, Iowa	42,023	32	7.6	13.71	4.60	18.31	233	2.64
Covington, Ky	65,247	67	10.3	6.80	2.84	9.64	290	4.18
Cranston, R. I	43,914	273	62.2	34.47	1.89	36.36	83	27.83
Cumberland, Md	37,713	47	12.5	5.38	1.26	6.64	305	4.17
Dallas, Tex	260,397	996	38.2	35.50	6.84	42.35	55	9.37
Danville, Ill	36,646	47	12.8	7.79	2.53	10.32	285	5.45
Davenport, Iowa	60,728	168	27.7	33.11	7.43	40.55	58	12.42
Dayton, Ohio	200,225	213	10.6	25.84	3.92	29.76	128	4.56
Decatur, Ill	57,511	79	13.7	32.78	1.84	34.62	94	7.11
Denver, Colo	287,644	613	21.3	20.58	6.01	26.59	160	8.67
Des Moines, Iowa	142,469	225	15.8	26.16	1.99	28.15	144	7.77
Detroit, Mich	1,564,397	4,084	26.1	26.74	4.18	30.92	118	12.43
Dubuque, Iowa	41,678	62	14.9	31.67	3.85	35.52	92	4.32
Duluth, Minn	101,231	82	8.1	13.49	7.92	21.42	195	2.72
Durham, N. C	52,026	114	21.9	18.44	1.68	20.12	210	10.82
East Chicago, Ind	54,660	37	6.8	29.39	3.56	32.95	104	2.91
East Cleveland, Ohio	40,279	56	13.9	19.81	1.13	20.94	202	17.68
Easton, Pa	34,328	15	4.4	10.65	5.92	16.57	246	3.49
East Orange, N. J	68,227	85	12.5	32.24	6.26	38.51	66	7.40
East Providence, R. I	29,995	133	44.3	34.33	8.14	42.47	54	24.30
East St. Louis, Ill	74,024	207	28.0	16.73	1.70	18.43	232	9.41
Elgin, Ill	35,912	72	20.0	16.70	3.78	20.49	206	9.86
Elizabeth, N. J	114,551	222	19.4	20.58	.24	20.81	203	7.35
Elkhart, Ind	33,195	43	13.0	12.45	3.43	15.88	253	6.13
Elmira, N. Y	47,381	40	8.4	33.87	4.68	38.54	65	4.54
El Paso, Tex	101,975	470	46.1	25.05	3.76	28.80	137	14.53
Erie, Pa	115,875	209	18.0	21.04	7.46	28.50	140	9.93
Evanston, Ill	61,766	63	10.2	36.38	13.86	50.25	38	12.35
Evansville, Ind	103,151	174	16.9	13.02	4.05	17.07	243	6.47
Everett, Mass	48,298	53	11.0	28.34	3.39	31.73	112	3.80
Everett, Wash	30,498	71	23.3	17.87	9.36	27.23	152	5.86
Fall River, Mass	114,348	33	2.9	8.54	1.86	10.40	283	1.04
Fitchburg, Mass	40,672	22	5.4	20.69	.93	21.62	191	2.67
Flint, Mich	156,422	360	23.0	22.00	3.53	25.53	167	10.64
Fond du Lac, Wis	26,362	37	14.0	12.33	2.83	15.16	255	8.02
Fort Wayne, Ind	115,121	313	27.2	22.76	4.16	26.92	155	13.50
Fort Worth, Tex	160,892	626	38.9	60.35	4.69	65.03	23	14.06
Fresno, Calif	52,558	107	20.4	16.13	9.22	25.36	169	7.52

TABLE 4.—PER CAPITA EXPENDITURES FOR NEW BUILDINGS AND FOR REPAIRS, AND FAMILIES PROVIDED FOR, IN 311 CITIES, 1930—Continued

City and State	Population, census of 1930	Families provided for		Per capita expenditure				Per capita expenditure for housekeeping dwellings only
		Number	Per 10,000 population	For new buildings	For repairs and additions	Total	Rank of city	
Galveston, Tex	53,427	127	23.8	$27.09	$5.06	$32.15	110	$7.87
Gary, Ind	100,426	131	13.0	8.51	3.21	11.72	276	5.18
Grand Rapids, Mich	168,234	231	13.7	11.97	5.40	17.37	241	5.12
Great Falls, Mont	28,553	103	36.1	39.02	5.97	44.99	46	13.86
Green Bay, Wis	37,353	113	30.3	30.21	6.43	36.64	80	11.30
Greensboro, N. C	53,422	61	11.4	10.18	4.16	14.34	263	5.34
Greenville, S. C	29,081	72	24.8	27.74	8.55	36.29	84	9.26
Greenwich, Conn	33,112	203	61.3	109.62	21.32	130.94	3	86.38
Hagerstown, Md	30,861	43	13.9	17.21	1.33	18.54	230	7.55
Hamilton, Ohio	52,108	81	15.5	24.93	4.86	29.79	127	6.95
Hammond, Ind	64,523	152	23.6	25.95	3.12	29.07	133	9.25
Hamtramck, Mich	56,283	21	3.7	20.35	2.73	23.07	182	1.40
Harrisburg, Pa	80,284	77	9.6	23.46	7.91	31.37	115	6.80
Hartford, Conn	161,372	61	3.8	30.51	8.93	39.44	62	3.86
Haverhill, Mass	48,687	38	7.8	4.54	2.47	7.00	304	2.30
Hazleton, Pa	39,078	27	6.9	9.94	2.81	12.75	270	5.39
Highland Park, Mich	52,883	5	.9	9.76	2.05	11.81	275	.70
Hoboken, N. J	56,523	4	.7	5.44	9.20	14.64	261	.49
Holyoke, Mass	56,555	37	6.5	25.00	5.12	30.11	124	3.68
Houston, Tex	289,428	2,227	76.9	57.96	1.69	59.65	29	33.13
Huntington, W. Va	75,575	56	7.4	9.46	.72	10.18	286	3.22
Hutchinson, Kans	27,080	105	38.8	63.30	6.64	69.94	19	14.49
Indianapolis, Ind	362,564	615	17.0	17.06	3.49	20.55	205	7.55
Irvington, N. J	56,745	102	18.0	28.45	1.51	29.97	126	7.93
Jackson, Mich	54,870	61	11.1	7.20	5.51	12.72	271	5.22
Jacksonville, Fla	129,682	186	14.3	12.51	6.08	18.59	228	3.76
Jamestown, N. Y	45,172	93	20.6	12.58	4.75	17.33	242	9.21
Jersey City, N. J	316,914	238	7.5	35.64	2.75	38.39	68	2.80
Johnstown, Pa	66,983	18	2.7	6.20	4.19	10.38	284	1.37
Joliet, Ill	41,753	88	21.1	48.05	11.13	59.18	30	13.78
Joplin, Mo	33,452	36	10.8	19.10	6.13	25.23	171	4.39
Kalamazoo, Mich	54,388	102	18.8	17.19	4.35	21.54	193	8.62
Kansas City, Kans	122,327	187	15.3	10.11	.93	11.04	279	4.27
Kansas City, Mo	392,640	864	22.0	35.06	4.83	39.89	61	7.69
Kearny, N. J	40,724	103	25.3	19.58	1.11	20.70	204	9.92
Kenosha, Wis	50,242	78	15.5	26.41	3.13	29.54	129	15.07
Kingston, N. Y	28,166	41	14.6	23.82	6.79	30.61	120	7.73
Knoxville, Tenn	105,797	238	22.5	32.50	1.78	34.28	98	6.10
Kokomo, Ind	32,680	17	5.2	4.33	3.72	8.05	299	1.50
Lakewood, Ohio	69,811	248	35.5	20.19	1.04	21.23	199	14.85
Lancaster, Pa	60,596	43	7.1	18.55	4.24	22.79	183	9.31
Lansing, Mich	78,421	137	17.5	21.56	4.77	26.33	162	6.80
Lawrence, Mass	84,949	19	2.2	4.44	2.83	7.27	302	.80
Lebanon, Pa	25,568	12	4.7	26.28	2.84	29.12	132	5.61
Lewiston, Me	34,948	31	8.9	33.24	1.10	34.33	97	4.32
Lexington, Ky	45,723	85	18.6	21.58	5.19	26.77	159	5.00
Lima, Ohio	42,217	11	2.6	21.77	2.33	24.10	177	1.22
Lincoln, Nebr	75,919	98	12.9	19.17	1.88	21.05	201	6.22
Little Rock, Ark	81,679	283	34.6	19.30	8.27	27.56	150	12.76
Long Beach, Calif	141,390	1,993	141.0	86.73	5.62	92.35	10	38.08
Lorain, Ohio	44,483	83	18.7	13.72	.94	14.66	260	6.21
Los Angeles, Calif	1,231,730	11,437	92.9	52.49	8.69	61.18	27	26.21
Louisville, Ky	307,808	428	13.9	19.79	2.75	22.54	185	7.57
Lowell, Mass	100,300	42	4.2	7.59	3.84	11.43	277	1.79
Lynchburg, Va	40,559	114	28.1	35.68	4.65	40.32	60	12.46
Lynn, Mass	102,327	103	10.1	23.76	5.28	29.05	135	4.96
McKeesport, Pa	54,631	83	15.2	13.91	5.34	19.25	224	8.10
Macon, Ga	53,866	45	8.4	9.21	5.21	14.42	262	1.53
Madison, Wis	57,815	179	31.0	34.96	5.65	40.61	57	14.46
Malden, Mass	58,143	99	17.0	16.37	3.12	19.49	218	7.80
Manchester, N. H	76,834	86	11.2	6.78	3.17	9.95	288	3.26
Mansfield, Ohio	33,434	97	29.0	17.84	3.63	21.47	194	13.10
Marion, Ind	24,329	18	7.4	11.09	5.07	16.16	250	1.38
Marion, Ohio	31,005	14	4.5	18.96	.79	19.74	214	1.61
Medford, Mass	59,700	249	41.7	25.59	2.15	27.74	148	21.44
Memphis, Tenn	252,049	1,057	41.9	31.62	6.07	37.70	75	13.14
Meriden, Conn	38,452	64	16.6	15.86	5.39	21.26	198	7.36
Miami, Fla	110,025	114	10.4	9.96	7.46	17.42	240	4.25
Milwaukee, Wis	568,962	1,729	30.4	33.12	11.33	44.44	47	12.18
Minneapolis, Minn	462,611	1,355	29.3	23.34	5.74	29.07	134	10.71
Mobile, Ala	68,277	191	28.0	11.84	4.27	16.11	251	5.30
Moline, Ill	32,330	112	34.6	36.84	5.88	42.72	52	16.42
Montclair, N. J	42,006	69	16.4	37.74	8.45	46.18	43	22.16
Montgomery, Ala	66,075	280	42.4	13.95	5.33	19.28	223	8.52

TABLE 4.—PER CAPITA EXPENDITURES FOR NEW BUILDINGS AND FOR REPAIRS, AND FAMILIES PROVIDED FOR, IN 311 CITIES, 1930—Continued

City and State	Population, census of 1930	Families provided for		Per capita expenditure				Per capita expenditure for housekeeping dwellings only
		Number	Per 10,000 population	For new buildings	For repairs and additions	Total	Rank of city	
Mount Vernon, N. Y.	60,869	481	79.0	$59.19	$9.77	$68.95	20	$48.02
Muncie, Ind.	46,517	47	10.1	6.97	2.57	9.54	291	3.27
Muskegon, Mich.	41,338	81	19.6	23.12	5.80	28.92	136	5.67
Muskogee, Okla.	32,006	24	7.5	16.26	1.47	17.73	237	1.64
Nashville, Tenn.	153,153	358	23.4	31.67	4.35	36.02	87	6.54
Newark, N. J.	444,170	750	16.9	22.96	4.91	27.87	147	7.97
Newark, Ohio	30,471	29	9.5	6.63	.76	7.39	301	2.49
New Bedford, Mass.	112,804	15	1.3	6.89	1.82	8.71	296	1.09
New Britain, Conn.	68,095	42	6.2	10.57	2.59	13.16	267	4.61
New Brunswick, N. J.	34,280	21	6.1	21.24	7.07	28.30	142	2.84
Newburgh, N. Y.	31,243	23	7.4	31.95	7.03	38.98	64	4.92
New Castle, Pa.	48,705	49	10.1	9.26	1.45	10.72	282	6.67
New Haven, Conn.	162,650	238	14.6	93.51	4.40	97.90	8	8.16
New London, Conn.	29,794	70	23.5	102.78	2.55	105.33	5	15.33
New Orleans, La.	455,792	258	5.7	11.82	2.41	14.23	264	1.91
Newport, Ky.	29,740	17	5.7	5.92	1.27	7.19	303	2.28
Newport, R. I.	27,430	45	16.4	31.57	11.69	43.26	49	20.55
Newport News, Va.	34,285	91	26.5	29.23	9.17	38.40	67	7.21
New Rochelle, N. Y.	54,055	191	35.3	89.00	15.87	104.87	6	57.58
Newton, Mass.	65,295	346	53.0	74.89	15.02	89.90	12	56.15
New York City, N. Y.	6,958,792	36,182	52.0	50.80	8.15	58.94	33	24.68
Niagara Falls, N. Y.	75,398	218	28.9	37.22	12.33	49.55	39	12.01
Norfolk, Va.	127,808	220	17.2	18.10	2.27	20.37	208	6.70
Norristown, Pa.	35,837	80	22.3	31.04	6.10	37.14	78	13.37
Norwalk, Conn.	35,961	165	45.9	56.53	9.25	65.79	22	36.06
Oakland, Calif.	284,213	1,231	43.3	27.02	4.94	31.97	111	13.81
Oak Park, Ill.	63,819	55	8.6	25.99	3.18	29.17	131	7.13
Ogden, Utah	40,243	113	28.1	21.68	3.41	25.09	172	6.48
Oklahoma City, Okla.	182,845	2,005	109.7	138.48	5.97	144.45	2	40.85
Okmulgee, Okla.	17,097	1	.6	1.21	1.10	2.31	311	.06
Omaha, Nebr.	214,184	208	9.7	20.48	3.43	23.91	179	4.07
Orange, N. J.	35,509	96	27.0	34.64	8.38	43.03	51	18.66
Oshkosh, Wis.	40,075	60	15.0	14.19	4.44	18.62	227	5.84
Ottumwa, Iowa	28,074	48	17.1	15.46	3.33	18.79	226	7.65
Paducah, Ky.	33,541	84	25.0	9.66	.25	9.91	289	4.38
Pasadena, Calif.	75,875	214	28.2	62.94	14.64	77.58	15	20.81
Passaic, N. J.	63,108	24	3.8	26.79	6.47	33.26	103	2.59
Paterson, N. J.	138,267	139	10.1	9.45	5.66	15.10	257	4.22
Pawtucket, R. I.	77,203	149	19.3	19.60	4.32	23.93	178	8.80
Peoria, Ill.	104,788	408	38.9	28.49	4.30	32.79	105	16.96
Perth Amboy, N. J.	44,007	32	7.3	22.68	5.62	28.30	143	3.29
Petersburg, Va.	28,487	37	13.0	5.80	1.70	7.50	300	3.81
Philadelphia, Pa.	1,961,458	1,744	8.9	22.31	4.79	27.09	153	4.02
Phoenix, Ariz.	47,950	410	85.5	62.10	6.21	68.32	21	21.34
Pittsburgh, Pa.	669,631	1,349	20.1	24.75	6.20	30.96	117	9.87
Pittsfield, Mass.	49,675	185	37.2	33.66	3.66	37.33	77	20.01
Plainfield, N. J.	34,405	81	23.5	40.23	7.53	47.76	41	19.08
Pontiac, Mich.	64,897	50	7.7	18.12	1.60	19.73	215	2.70
Port Arthur, Tex.	50,067	244	48.7	43.73	4.80	48.53	40	12.18
Port Huron, Mich.	31,176	32	10.3	3.40	1.38	4.79	309	2.36
Portland, Me.	70,810	110	15.5	16.54	5.59	22.13	188	6.79
Portland, Oreg.	299,122	866	29.0	30.80	9.53	40.33	59	12.67
Portsmouth, Ohio	42,536	31	7.3	7.69	1.10	8.79	295	3.72
Portsmouth, Va.	45,353	71	15.7	8.68	3.27	11.95	273	3.90
Poughkeepsie, N. Y.	40,123	48	12.0	10.36	8.20	18.56	229	8.47
Providence, R. I.	252,029	446	17.7	30.92	11.70	42.62	53	12.20
Pueblo, Colo.	50,102	61	12.2	6.41	4.33	10.74	281	2.71
Quincy, Ill.	39,221	68	17.3	25.44	.86	26.30	163	5.72
Quincy, Mass.	71,965	288	40.0	33.24	4.61	37.85	73	16.50
Racine, Wis.	67,515	174	25.8	50.53	7.60	58.12	34	13.00
Reading, Pa.	110,289	119	10.8	17.51	4.92	22.43	186	6.62
Revere, Mass.	35,705	58	16.2	11.13	8.53	19.66	216	6.54
Richmond, Ind.	32,561	76	23.3	16.72	2.37	19.09	225	6.85
Richmond, Va.	182,883	227	12.4	26.64	5.90	32.54	107	5.44
Roanoke, Va.	69,096	101	14.6	34.19	3.53	37.71	74	7.78
Rochester, N. Y.	325,019	262	8.1	20.34	4.31	24.65	174	4.26
Rockford, Ill.	85,831	341	39.7	25.99	7.88	33.88	100	14.37
Rock Island, Ill.	39,093	132	33.8	15.66	18.31	33.98	99	11.62
Sacramento, Calif.	93,685	388	41.4	26.45	5.88	32.33	108	13.15
Saginaw, Mich.	80,685	193	23.9	28.81	4.53	33.34	101	7.02
St. Joseph, Mo.	80,944	96	11.9	17.46	2.55	20.01	212	3.05
St. Louis, Mo.	817,334	1,618	19.8	17.19	4.01	21.19	200	6.94
St. Paul, Minn.	270,883	402	14.8	33.46	5.98	39.43	63	6.85
St. Petersburg, Fla.	39,504	73	18.5	14.51	5.67	20.19	209	8.02

TABLE 4.—PER CAPITA EXPENDITURES FOR NEW BUILDINGS AND FOR REPAIRS, AND FAMILIES PROVIDED FOR, IN 311 CITIES, 1930—Continued

City and State	Population, census of 1930	Families provided for		Per capita expenditure				Per capita expenditure for housekeeping dwellings only
		Number	Per 10,000 population	For new buildings	For repairs and additions	Total	Rank of city	
Salem, Mass	43,287	56	12.9	$17.49	$9.37	$26.85	156	$7.64
Salt Lake City, Utah	140,058	554	39.6	27.56	2.96	30.52	121	13.46
San Antonio, Tex	254,562	1,135	44.6	29.95	3.39	33.34	102	10.22
San Diego, Calif	147,897	829	56.1	31.52	5.17	36.69	79	19.70
San Francisco, Calif	625,974	2,206	35.2	31.12	4.69	35.81	89	14.60
San Jose, Calif	57,547	185	32.1	52.76	6.38	59.13	32	12.83
Savannah, Ga	85,007	94	11.1	11.38	1.19	12.57	272	3.81
Schenectady, N. Y	95,652	169	17.7	50.52	5.29	55.82	37	10.83
Scranton, Pa	143,428	49	3.4	16.98	5.26	22.24	187	1.21
Seattle, Wash	363,134	2,583	71.1	75.13	8.46	83.59	13	23.80
Sheboygan, Wis	39,249	98	25.0	27.02	8.83	35.85	88	12.40
Shreveport, La	76,659	171	22.3	11.98	8.13	20.11	211	5.47
Sioux City, Iowa	79,212	179	22.6	39.02	4.06	43.07	50	7.83
Sioux Falls, S. Dak	33,360	255	76.4	50.94	9.05	59.99	28	27.95
Somerville, Mass	103,604	49	4.7	10.60	2.72	13.32	266	1.60
South Bend, Ind	104,193	193	18.5	32.50	3.09	35.59	91	9.27
Spokane, Wash	115,514	328	28.4	25.78	5.74	31.52	114	10.62
Springfield, Ill	71,857	151	21.0	37.83	6.42	44.25	48	9.10
Springfield, Mass	149,861	284	19.0	32.83	5.23	38.06	70	8.01
Springfield, Mo	57,507	116	20.2	11.59	7.80	19.39	220	5.34
Springfield, Ohio	68,406	91	13.3	9.57	1.79	11.36	278	4.68
Stamford, Conn	46,282	109	23.6	48.91	7.73	56.64	36	16.70
Steubenville, Ohio	35,418	68	19.2	19.96	3.62	23.59	180	8.48
Stockton, Calif	47,951	100	20.9	21.64	5.40	27.03	154	7.29
Superior, Wis	36,100	47	13.0	23.43	3.41	26.84	157	4.18
Syracuse, N. Y	207,007	432	20.9	20.35	5.73	26.08	164	11.84
Tacoma, Wash	106,837	347	32.5	33.68	4.42	38.09	69	9.78
Tampa, Fla	100,910	91	9.0	9.63	3.28	12.90	269	1.50
Taunton, Mass	37,288	27	7.2	4.09	11.92	16.01	252	2.57
Terre Haute, Ind	62,543	50	8.0	7.51	3.47	10.98	280	3.01
Toledo, Ohio	290,787	372	12.8	26.90	8.88	35.78	90	5.00
Topeka, Kans	64,005	92	14.4	36.09	1.80	37.89	72	6.67
Trenton, N. J	122,610	38	3.1	16.43	3.54	19.97	213	1.66
Troy, N. Y	72,350	99	13.7	38.45	3.34	41.79	56	7.49
Tucson, Ariz	32,198	191	59.3	53.42	9.75	63.17	25	16.68
Tulsa, Okla	141,281	943	66.7	53.83	5.31	59.15	31	27.42
Union City, N. J	58,588	41	7.0	11.22	3.93	15.14	256	2.90
Utica, N. Y	102,633	90	8.8	10.53	2.62	13.15	268	5.10
Vallejo, Calif	14,476	28	19.3	17.10	6.22	23.33	181	6.46
Waco, Tex	52,825	106	20.1	14.40	7.45	21.85	190	6.07
Waltham, Mass	39,425	124	31.5	42.18	3.63	45.81	44	14.66
Warren, Ohio	41,054	93	22.7	11.74	4.78	16.52	247	7.39
Washington, D. C	485,716	1,962	40.4	88.81	11.70	100.52	7	28.59
Waterbury, Conn	99,902	101	10.1	16.93	3.46	20.39	207	4.75
Waterloo, Iowa	45,969	137	29.8	23.15	2.77	25.92	165	9.46
Watertown, Mass	34,913	84	24.1	25.04	2.58	27.62	149	12.52
Watertown, N. Y	32,088	14	4.4	6.41	7.14	13.55	265	1.83
West New York, N. J	36,916	2	.5	3.54	2.99	6.53	306	.42
Wheeling, W. Va	61,752	45	7.3	11.77	6.37	18.15	234	3.56
White Plains, N. Y	35,604	297	83.4	157.41	16.15	173.56	1	76.90
Wichita, Kans	109,832	736	67.0	52.89	4.54	57.43	35	20.87
Wichita Falls, Tex	43,614	30	6.9	17.91	7.42	25.33	170	2.66
Wilkes-Barre, Pa	86,507	39	4.5	15.93	3.36	19.29	222	1.76
Wilkinsburg, Pa	29,631	79	26.7	20.60	7.82	28.42	141	13.25
Williamsport, Pa	45,695	36	7.9	24.23	3.75	27.97	145	5.41
Wilmington, Del	104,941	367	35.0	40.11	6.75	46.86	42	17.73
Wilmington, N. C	32,167	52	16.2	19.04	2.51	21.55	192	5.37
Winston-Salem, N. C	75,288	130	17.3	17.40	3.88	21.28	197	5.34
Woonsocket, R. I	49,585	22	4.4	4.17	2.12	6.29	308	1.26
Worcester, Mass	196,395	294	15.0	25.67	6.62	32.29	109	8.16
Yonkers, N. Y	135,123	1,042	77.1	67.47	5.71	73.18	17	51.28
York, Pa	55,237	56	10.1	23.52	6.87	30.39	123	5.04
Youngstown, Ohio	170,004	163	9.6	14.17	2.31	16.48	249	4.29
Zanesville, Ohio	36,439	39	10.7	5.41	.44	5.85	76	2.74
Total, 311 cities	47,091,551	130,503	27.7	31.98	5.53	37.51	------	12.16

Building Operations, 1921 to 1930

TABLE 5 shows for 257 identical cities the estimated expenditures for new residential buildings, new nonresidential buildings, and total new buildings; the estimated population as of July 1 each year, 1921 to 1929, and the census of population as of 1930; the number of families provided for, the ratio of families provided for to each 10,000 of population; the index number of each of these items, and the index number of families provided for, weighted by population.

TABLE 5.—ESTIMATED EXPENDITURE FOR EACH CLASS OF NEW BUILDINGS, FAMILIES PROVIDED FOR AND RATIO TO POPULATION, AND INDEX NUMBERS THEREOF, IN 257 IDENTICAL CITIES, 1921 to 1930

Year	New residential buildings		New nonresidential buildings		Total new buildings	
	Estimated expenditure	Index number	Estimated expenditure	Index number	Estimated expenditure	Index number
1921	$937,352,739	100.0	$635,775,199	100.0	$1,573,127,938	100.0
1922	1,612,352,921	172.0	876,276,713	137.8	2,488,629,634	158.2
1923	2,000,986,900	213.5	1,070,596,718	168.4	3,071,583,618	195.3
1924	2,070,276,772	220.9	1,137,631,080	178.9	3,207,907,852	203.9
1925	2,461,546,270	262.6	1,343,880,884	211.4	3,805,427,154	241.9
1926	2,255,994,627	240.7	1,300,840,876	204.6	3,556,835,503	226.1
1927	1,906,003,200	203.3	1,231,785,870	193.7	3,137,789,130	199.5
1928	1,859,429,751	198.4	1,135,549,986	178.6	2,994,979,737	190.4
1929	1,433,111,774	152.9	1,146,958,101	180.4	2,580,069,875	164.0
1930	601,269,847	64.1	849,386,873	133.6	1,450,656,720	92.2

Year	Population		Families provided for			
	As estimated by Census Bureau	Index number	Number	Index number	Ratio to each 10,000 of population	Index number adjusted to population
1921	36,575,118	100.0	224,545	100.0	61.4	100.0
1922	37,511,516	102.6	377,305	168.0	100.6	163.7
1923	38,447,913	105.1	453,673	202.0	118.0	192.2
1924	39,384,311	107.7	442,919	197.3	112.5	183.2
1925	40,320,708	110.2	491,222	218.8	121.8	198.4
1926	41,257,106	112.8	462,214	205.8	112.0	182.4
1927	42,058,897	115.0	406,095	180.9	96.6	157.3
1928	42,767,125	116.9	338,678	173.1	90.9	148.1
1929	43,665,235	119.4	244,394	108.8	56.0	91.1
1930	[1] 44,850,467	122.6	125,322	55.8	27.9	45.5

[1] Actual enumeration.

During 1930 permits issued for new buildings showed an estimated expenditure of $1,450,656,720. This is less than the expenditure for any of the other years since 1921. The index number of expenditures for total new buildings stands at 92.2 for the year 1930, if the 1921 expenditures are taken as 100. The peak year was 1925, when the index was 241.9. Expenditures for new residential buildings decreased much more rapidly than for new nonresidential buildings. A peak of 262.6 was reached in 1925, followed by a gradual decline to an index of 152.9 in 1929; an abrupt decline occurred during 1930 to an index of 64.1. New nonresidential buildings followed practically the same trend, the index number rising to a peak of 211.4 in 1925 and falling gradually to 178.6 in 1928. A slight rise, to 180.4, occurred in 1929; the 1930 index number was 133.6.

The population of these 257 cities, according to the 1930 census, was 44,850,467. In 1930, 125,322 families were provided with dwelling places in new buildings. This is at the rate of 27.9 families for each 10,000 of population. In 1925, 121.8 families were provided for to each 10,000 of the population. The population of these 257 cities has increased 22.6 per cent since 1921, but the number of families provided for has decreased 44.2 per cent. The index number of families provided for, adjusted to the population, reached a peak of 198.4 in 1925, but fell to 91.1 in 1929 and then to 45.5 in 1930.

The index number of families provided for, adjusted to population, is obtained by dividing the index number of families provided for by the index number of the population. In other words, while 55.8 per cent as many families were provided with dwelling places in 1930 as in 1921, the population of these 257 cities increased 22.6 per cent during this period, and therefore, in proportion to the population, only 45.5 per cent as many families were provided for in 1930 as in 1921.

Average Cost of Dwellings per Family, 1921 to 1930

TABLE 6 shows the average cost per family unit each year, 1921 to 1930, of housing accommodations of each type for which permits were issued in the 257 identical cities from which reports were received:

TABLE 6.—AVERAGE COST OF NEW DWELLINGS[1] PER FAMILY IN 257 IDENTICAL CITIES, 1921 TO 1930

Year	Average cost of new dwellings per family				Index numbers of cost of dwellings per family			
	1-family dwellings	2-family dwellings[2]	Multi-family dwellings[3]	All classes of dwellings	1-family dwellings	2-family dwellings[2]	Multi-family dwellings[3]	All classes of dwellings
1921	$3,972	$3,762	$4,019	$3,947	100.0	100.0	100.0	100.0
1922	4,134	3,801	2,880	4,005	104.1	101.0	96.5	101.5
1923	4,203	4,159	4,001	4,127	105.8	110.6	99.6	104.6
1924	4,317	4,336	4,418	4,352	108.7	115.3	109.9	110.3
1925	4,618	4,421	4,289	4,464	116.3	117.5	106.7	113.1
1926	4,725	4,480	4,095	4,422	119.0	119.1	101.9	112.0
1927	4,830	4,368	4,170	4,449	121.6	116.1	103.8	112.7
1928	4,937	4,064	4,129	4,407	124.3	108.0	102.7	111.7
1929	4,915	4,020	4,402	4,566	123.7	106.9	109.5	115.7
1930	4,993	3,924	3,857	4,385	125.7	104.3	96.0	111.1

[1] Includes only cost of the buildings.
[2] Includes 1-family and 2-family dwellings with stores.
[3] Includes multifamily dwellings with stores.

The average cost of the 1-family dwellings for which permits were issued during the year 1921 in these 257 cities was $3,972. There was a slight increase in the average cost of 1-family dwellings each year over the preceding year from 1921 to 1928, inclusive, a slight drop in 1929, and another rise in 1930. The index number of the cost of 1-family dwellings, based on 1921 equaling 100, stood at 124.3 in 1928, decreased to 123.7 in 1929, and rose to 125.7 in 1930.

The 2-family dwellings for which permits were issued during the year 1921 cost $3,762 per family. The price increased until a peak of $4,480 was reached in 1926, since which time a decline in the average cost of this class of dwellings has taken place each year. In 1929 the

average cost was $4,020, and in 1930, $3,924. At the peak, in 1926, the index was 119.1, in 1929 it was 106.9, and in 1930, 104.3.

The curve of per-family cost in the erection of apartment houses has been more broken than that for either 1-family dwellings or 2-family dwellings. The average per-family cost of the multifamily dwellings for which permits were issued in 1921 was $4,019; it fell slightly in 1922, rose for each of the years 1923 and 1924, fell again in 1925 and 1926, slightly increased in 1927, fell slightly in 1928, and rose sharply in 1929. The index number in 1929 was 109.5 as compared with the peak of 109.9 in 1924. The average cost during the peak year 1924 was $4,418 per family unit. During 1930 the average per-family cost of the multifamily dwellings for which permits were issued in these cities was $3,857—the lowest shown for any of the 10 years under discussion.

The average cost of all classes of dwellings for which permits were issued in these 257 cities was $3,947 in 1921 and $4,464 in 1925, the peak year. The 1930 cost in these cities was $4,385, which was less than that for any other year since 1924.

Families Provided for, 1921 to 1930

TABLE 7 shows the number and percentage distribution of families provided for in the different kinds of dwellings in 257 identical cities from which reports have been received each year from 1921 to 1930, inclusive.

TABLE 7.—NUMBER AND PER CENT OF FAMILIES PROVIDED FOR IN DIFFERENT KINDS OF DWELLINGS IN 257 IDENTICAL CITIES, 1921 TO 1930

Year	Number of families provided for in—				Per cent of families provided for in—		
	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]	All classes of dwellings	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]
1921	130,873	38,858	54,814	224,545	58.3	17.3	24.4
1922	179,364	80,252	117,689	377,305	47.5	21.3	31.2
1923	207,632	96,344	149,697	453,673	45.8	21.2	33.0
1924	210,818	95,019	137,082	442,919	47.6	21.5	30.9
1925	226,159	86,145	178,918	491,222	46.0	17.5	36.4
1926	188,074	64,298	209,842	462,214	40.7	13.9	45.4
1927	155,512	54,320	196,263	406,095	38.3	13.4	48.3
1928	136,907	43,098	208,673	388,678	35.2	11.1	53.7
1929	98,164	27,813	118,417	244,394	40.2	11.4	48.5
1930	57,318	15,145	52,859	125,322	45.7	12.1	42.2

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.

Reports have been received by the Bureau of Labor Statistics from 257 identical cities continuously from 1921 to 1930. In these 257 cities 125,322 family dwelling places were provided in new buildings during 1930. This is the lowest number provided for during any calendar year since the collection of such data by the bureau. During 1925, the peak year, 491,222 family dwelling units were provided in new buildings in these 257 cities, but there has been a gradual decrease each year since that time.

The number of families provided for in 1-family dwellings also reached a peak in 1925 and has been declining steadily since that time.

The year 1923 saw the peak number of 2-family dwellings erected. During 1930 the number of families provided for in 2-family dwellings was less than one-sixth of the number provided for in this class of dwellings during 1923.

For the years 1921 to 1925, inclusive, a larger percentage of the total number of family dwellings provided were in 1-family dwellings than in apartment houses. During the years 1926 to 1929, however, this situation was reversed, but in 1930, 1-family dwellings again provided for more families than the apartment buildings. In 1921, 58.3 per cent of all family dwelling units provided were in 1-family dwellings, but this percentage decreased each year, with some fluctuation, until 1928 when a low point of 35.2 per cent was reached. In 1930, 45.7 per cent of all family dwelling units provided were in 1-family dwellings.

In 1921 only 24.4 per cent of the family dwelling units were in apartment houses. In 1928, 53.7 per cent of all family dwelling units provided were in apartment houses. In 1930, 42.2 per cent of the families provided for were to be housed in multifamily dwellings. Two-family dwellings provided for 12.1 per cent of the total number of families housed in new buildings in 1930.

During the 10 years 1921 to 1930, inclusive, dwelling places have been provided in new buildings for 3,616,397 families in these 257 cities reporting. Of this number, 44.0 per cent have been housed in 1-family dwellings, 39.4 in multifamily dwellings, and 16.6 per cent in 2-family dwellings.

Five Leading Cities, 1921 to 1930

THE five leading cities in total building permit expenditure in 1930 were New York, Chicago, Los Angeles, Philadelphia, and Washington. In the 10 years 1921 to 1930, New York, Chicago, and Los Angeles have been among the five leading cities each year. Philadelphia has been included in the list of five leading cities for every year except 1921, when it was displaced by Cleveland. Detroit has been one of the five leading cities each year except 1930, when Washington surpassed it in expenditures for total building operations.

Table 8 ranks the cities according to their total expenditure for building construction of all kinds as shown by the permits issued. Table 9 shows what has been done, in proportion to their size, in the construction of family residential units, in the five cities leading in this particular feature.

During 1930, permits issued for new dwellings showed that homes were to be provided for 130,503 families, which is at the rate of 27.7 families to each 10,000 of population. Following is a list of the five leading home-building cities in proportion to their population for the years 1921 to 1930, inclusive. The figures show the number of families provided for per 10,000 population according to the latest estimates available each year, except 1930, as prepared by the Bureau of Census. The 1930 ratios are based on the 1930 census enumeration figures.

TABLE 8.—FIVE CITIES LEADING IN TOTAL EXPENDITURE, EACH YEAR, 1921 TO 1930

Year and city	Total expenditure	Year and city	Total expenditure
1921		1926	
New York	$442, 285, 248	New York	$1, 039, 670, 572
Chicago	133, 027, 910	Chicago	376, 808, 480
Cleveland	86, 680, 023	Detroit	183, 721, 443
Los Angeles	82, 761, 386	Philadelphia	140, 093, 075
Detroit	58, 086, 053	Los Angeles	123, 006, 215
1922		1927	
New York	645, 176, 481	New York	880, 333, 455
Chicago	229, 853, 125	Chicago	365, 065, 042
Los Angeles	121, 206, 787	Detroit	145, 555, 647
Philadelphia	114, 190, 525	Los Angeles	123, 027, 139
Detroit	93, 614, 593	Philadelphia	117, 590, 650
1923		1928	
New York	789, 265, 335	New York	916, 671, 855
Chicago	334, 164, 404	Chicago	323, 509, 048
Los Angeles	200, 133, 181	Detroit	129, 260, 285
Detroit	129, 719, 831	Philadelphia	112, 225, 865
Philadelphia	128, 227, 405	Los Angeles	101, 678, 768
1924		1929	
New York	836, 043, 604	New York	942, 297, 219
Chicago	308, 911, 159	Chicago	210, 797, 640
Detroit	160, 547, 723	Philadelphia	104, 405, 545
Los Angeles	150, 147, 516	Detroit	100, 567, 497
Philadelphia	141, 402, 655	Los Angeles	93, 020, 160
1925		1930	
New York	1, 020, 604, 713	New York	410, 165, 789
Chicago	373, 803, 571	Chicago	85, 749, 167
Detroit	180, 132, 528	Los Angeles	75, 356, 715
Philadelphia	171, 034, 280	Philadelphia	53, 141, 770
Los Angeles	152, 646, 436	Washington	48, 823, 891

TABLE 9.—FAMILIES PROVIDED FOR BY RESIDENTIAL CONSTRUCTION, PER 10,000 OF POPULATION, IN THE FIVE LEADING CITIES EACH YEAR, 1921 TO 1930

Year and city	Families provided for per 10,000 of population	Year and city	Families provided for per 10,000 of population
1921		1926	
Long Beach, Calif	631. 9	St. Petersburg, Fla	700. 3
Los Angeles, Calif	320. 9	Mount Vernon, N. Y	644. 7
Pasadena, Calif	251. 7	Irvington, N. J	398. 6
Shreveport, La	249. 8	White Plains, N. Y	367. 2
Lakewood, Ohio	191. 3	San Diego, Calif	339. 5
1922		1927	
Long Beach, Calif	1, 081. 0	Irvington, N. J	740. 5
Los Angeles, Calif	441. 6	White Plains, N. Y	419. 5
Lakewood, Ohio	358. 9	Mount Vernon, N. Y	414. 8
Miami, Fla	268. 1	Yonkers, N. Y	349. 0
East Cleveland, Ohio	267. 6	East Orange, N. J	338. 1
1923		1928	
Long Beach, Calif	1, 038. 1	Yonkers, N. Y	347. 6
Los Angeles, Calif	657. 4	Mount Vernon, N. Y	299. 1
Miami, Fla	611. 1	White Plains, N. Y	298. 3
Irvington, N. J	432. 1	Long Beach, Calif	297. 4
Lakewood, Ohio	381. 5	Irvington, N. J	295. 4
1924		1929	
Miami, Fla.[1]	2, 248. 9	Long Beach, Calif	306. 9
Irvington, N. J	501. 2	Phoenix, Ariz	236. 3
Los Angeles, Calif.[2]	448. 3	Houston, Tex	211. 6
San Diego, Calif	378. 0	Pontiac, Mich	208. 8
Long Beach, Calif	347. 6	Wichita, Kans	159. 1
1925		1930	
Miami, Fla.[1]	1, 342. 0	Long Beach, Calif	141. 0
San Diego, Calif	392. 0	Oklahoma City, Okla	109. 7
Tampa, Fla	379. 3	Los Angeles, Calif	92. 9
Irvington, N. J	374. 6	Austin, Tex	92. 8
Los Angeles, Calif.[2]	331. 0	Bloomfield, N. J	90. 4

[1] The ratio of families provided for in Miami in 1924 was based on the population as estimated by the Census Bureau for that year. In the light of the actual census taken by the State enumeration in 1925, it would seem that the estimate for 1924 was below the actual population for that year, hence the ratio here shown for 1924 is probably higher than the actual population in that year would warrant.

[2] Population not estimated in 1924 or 1925; 1923 estimate used.

Prices of Building Material, and Wages

THE Bureau of Labor Statistics collects monthly the wholesale price of building material and from such figures computes index numbers. Retail prices as paid by builders are not available, but it is believed that the trend of retail prices follows closely that of wholesale prices.

The index numbers shown in Table 10 for wage rates in the building trades are wage rates for union labor only. In many cities the building trades are highly organized, while in others there is much nonunion labor. Although the bureau has no data concerning the trend of wage rates of nonunion labor in the building trades, it is thought that it follows that of union wages. Based on 1921, the index number of wholesale prices in the building trades reached a peak of 111.6 in 1923. It decreased each year thereafter until a low point of 95.8 was reached in 1927. There was an increase in each of the next two years, but a decrease again in 1930, when the index number stood at 97.2.

The index number of union wage rates in the building trades has climbed steadily from a low point of 93.4, reached in 1922, to a high of 136.2 in 1930, 1921 being the base or 100.0.

TABLE 10.—INDEX NUMBERS OF WHOLESALE PRICES OF BUILDING MATERIAL AND OF UNION WAGE RATES IN THE BUILDING TRADES, 1921 TO 1930

Year	Wholesale prices of building material	Union wage rates per hour in the building trades	Year	Wholesale prices of building material	Union wage rates per hour in the building trades
1921	100.0	100.0	1926	102.7	124.0
1922	99.9	93.4	1927	95.8	128.5
1923	111.6	103.6	1928	96.2	129.0
1924	105.0	112.2	1929	99.7	130.6
1925	104.4	116.3	1930	97.2	136.2

Building Erection Costs in Detroit

THE table on page 176 shows the cost in cents per cubic foot for different kinds of buildings for which permits were issued in the city of Detroit, Mich., at various times from August, 1915, to January, 1931. These figures were compiled by Mr. Joseph P. Wolff, commissioner of buildings of Detroit.

In measuring the cubical volume of a building for the purposes of determining fees, the department of building and safety engineering of the city of Detroit uses the following rules:

The cubical volume of a building for the purpose of determining fees shall be measured as follows: From the outside of the walls and from the basement floor to the mean point of a pitched roof or to the highest point of a flat roof. The volume shall include all dormers, inclosed porches, penthouses, and other inclosed portions of the building, but shall exclude open porches.

In the case of buildings without basements the measurements shall be taken from the ground line, and in the case of large buildings having deep foundations the height shall be measured from a point below the basement floor by an amount equal to one-fifth of the depth of the foundation.

The values as shown in the following table are presumed to represent the lowest cost, exclusive of cost of land and architect's fees, but inclusive of contractors' profits, at which a fairly good building of economic design could be constructed, under the most favorable conditions, in the city of Detroit. The cost does not include any decorations, expensive stone ornamentation, marble work, heating or ventilation systems of unusual or complicated designs, special apparatus or equip-

ment of any sort such as incinerators, refrigeration, compressed-air piping, etc., or any financing cost, but the cost includes heating systems of the simpler kind and an ordinary number of elevators if the character of the building be such as required elevators.

It will be noted that the cost per cubic foot was lower in January, 1931, than at any time for which figures are shown, with the exception of August, 1915. Thus, in August, 1915, the cost per cubic foot for erecting a brick residence in the city of Detroit was 30½ cents; by August, 1920, the cost had risen to 68½ cents per cubic foot. In April, 1922, the cost was 33 cents; and in January, 1930, the cost was 44½ cents per cubic foot. In January, 1931, there was a decline of nearly 25 per cent as compared with the cost in the preceding year, the cost per cubic foot being 34½ cents, or only 4 cents per cubic foot higher than the cost as shown in August, 1915.

The change in the cost of frame residences is even more striking. In 1915 the cost per cubic foot in Detroit was 21½ cents. In August, 1920, this unit cost had risen to 48½ cents. By January, 1930, the cost had declined to 24 cents, while in January, 1931, the cost was only 20 cents per cubic foot, or 1½ cents less than the cost as shown in August, 1915.

All classes of buildings show marked declines between January, 1930, and January, 1931, and a few show a cubic foot cost in January, 1931, at or below the cost in August, 1915.

ESTIMATED COST PER CUBIC FOOT OF BUILDING CONSTRUCTION IN DETROIT, MICH.

Classification of buildings	August, 1915	August, 1920	January, 1921	August, 1921	April, 1922	December, 1922	January, 1924	February, 1925	February, 1926	February, 1927	January, 1928	January, 1929	January, 1930	January, 1931
Factories and warehouses:	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Fireproof (under 300,000 cubic feet)	14	31½	23	18	17	21	24	23	22½	23	22	22	22	16½
Fireproof (over 300,000 cubic feet)	12½	29	21	17	16	19½	23	22	21½	22	21	21	21	16
Mill construction	10	22½	15½	12	11	14	16½	16	16	16½	15¾	15¾	15½	11½
Ordinary	9	21	15	12	10½	13½	15	14½	14	14½	14	14	13½	10
Frame	7½	17	12	10	8	11½	13	11	10½	10½	10	10	10	7½
Stores:														
Fireproof	23	52	39	31	30	36	41½	40	39	39½	38	38	38½	30
Ordinary	16½	37½	26½	21	19	24½	28	26½	26	26½	25½	25½	25	20
Ordinary with flats above	22	48½	34	27	23	30½	31	29	28	28½	27½	27½	27	22
Ordinary, without basements				16¾	16	18½	21	19	18	18	17½	17½	17	14¼
Churches and theaters:														
Fireproof	18	40½	35	28	27	32½	37½	36	35¼	36	34¾	34¾	35	27
Ordinary	15½	35	24½	19	18	22	28½	27½	27	27½	26½	26½	26	20½
Office buildings:														
Fireproof	30½	68½	54½	44	35	51	54½	52	51	51½	49¾	49¾	50	39
Ordinary	22	48½	34	27	25	30½	35	33½	32¾	33¼	32	32	32	25
Hotels:														
Fireproof	33½	75½	58½	45	37	52	59½	57	56	57½	55½	55½	56	42¾
Ordinary	29½	66½	46½	37	26	43	43	34	32	32½	31¼	31¼	31	25½
Schools: Fireproof	22	48½	40½	32	30	37	45½	43½	42	43¼	40	40	40	32
Hospitals: Fireproof	32	72	54	32	33	37	45½	43½	42	43¼	45	45	45	32
All-steel buildings:														
Under 20,000 cubic feet	12	25	21	17	15	19½	20	14	13½	13½	13	13	13	11
20,000 to 100,000 cubic feet	8	18	15	12	10	14	14½	12	11	11	10½	10½	10½	10
Over 100,000 cubic feet	6½	14	13	10	8	11½	11½	10	9½	9½	9	9	9	7
Apartments:														
Fireproof	35	78	54	43	36	50	55	52½	51	52	50	50	50	39
Protected	29½	66½	46½	37	30	43	48	46	45½	46	44¼	44¼	45	34½
Brick (ordinary)	28	63	43	34	23½	39½	34	32	30	30½	29½	29½	29	24
Brick (veneer)	24	54	37	30	22	34½	32	30	29	29	28	28	28	22½
Residences:														
Brick	30½	68½	48	38	33	45	48	46	45	45½	44	44	44½	34½
Brick (veneer and stucco)	24	54	37	30	24	34½	34	32½	32	32	30¾	30¾	30½	24
Frame	21½	48½	34	27	19	30½	30	26½	25	25	24	24	24	20
Frame (not over 25,000 cubic feet)										20	20	20	20	15
Cinder concrete block							41½	39	38	38	36¾	36¾	37	29
Garages:														
Fireproof		30	23	18	17	21	24	23	22½	23	22¼	22¼	23	17
Mill construction		20	15	12	11	14	10	15	14	14½	14	14	13½	11
Ordinary		17	14	11	10	13	15	13½	12½	13	13	13	13	10
Frame		14	12	9	8	10½	12	10	9½	9½	9	9	9	8

WAGES AND HOURS OF LABOR

Wages and Hours of Labor in Sawmills, 1930

A STUDY was made in 1930 by the Bureau of Labor Statistics of hours of labor and earnings of 50,951 wage earners of 324 representative sawmills in 22 States producing some 94 per cent of the total lumber output of this country. Wage figures were also collected for employees of logging camps, but only those for sawmills are given in the present article.

Table 1 contains summary figures for 1930 along with like data for each of the specified years from 1910 to 1928 in which studies of the industry have been made by the bureau.[1] From 1928 to 1930 the decrease in average full-time hours per week in this industry was from 56.6 to 56.5, in earnings per hour from 37.1 to 35.9 cents, or 3.2 per cent, and in average full-time earnings per week from $21 to $20.28.

The averages for the years from 1910 to 1921 are for wage earners in the important or "selected" occupations in the industry only and are comparable, one year with another, over this period. Those for the years from 1921 to 1930 are for wage earners in all occupations in the industry and are, therefore, comparable one year with another over this period, but are not comparable with the averages for wage earners in the important or selected occupations. Two sets of figures are shown for 1921—the first for 33,115 wage earners in the selected occupations in 279 sawmills, and the second for 45,667 wage earners in all occupations in the industry in the same 279 sawmills. Average full-time hours per week for the 45,667 wage earners in all occupations in the industry in 1921 were 58 or 0.8 of an hour per week more than the average for the 33,115 in selected occupations only. Average earnings were 2.6 cents more per hour and $1.75 more per week in all occupations than for those in selected occupations.

Index numbers, on the 1913 base, are shown for the purpose of making comparisons of the increases or decreases in hours and earnings from one year to another over the entire period from 1910 to 1930. In order to make the series continuous and comparable the index numbers for 1921 for selected occupations have been increased or decreased in proportion to the increase or decrease in the averages for all occupations as between 1921 and the specified succeeding years.

Average full-time hours per week were 61.3, or an index of 100.3, in 1910. From that point the index rose to 100.5, in 1911, and then to 100.7 in 1912. In 1913, the year used as the base year or 100, the average full-time hours per week in this industry were 61.1. The same average prevailed in 1915, but from 1915 to 1919 a sharp decrease occurred, the index falling from 100.0 to 91.8, a decrease of 8.2 per cent. Increases to 93.6 in 1921 and to 93.8 in 1923 and 1925 then occurred, followed by a decrease to an index of 91.3 in 1928 and 91.2 in 1930. Hours in 1930 were 8.8 per cent lower than in 1913.

Index numbers of average earnings per hour decreased from 97.3 in 1910 to 95.1 in 1911; increased to 96.2 in 1912; to 100.0 in 1913; and

[1] Details of the 1930 study will be available later in bulletin form.

dropped 8.6 per cent to 91.4, in 1915. From 1915 to 1919 there was an increase of 112.9 per cent, to an index of 194.6, followed by a 14.4 per cent decrease to 166.5, in 1921. From that year onward further alternate increases and decreases took place—an increase of 8.4 per cent, to 180.5, in 1923; a decrease to 178 in 1925; an increase to 184.9 in 1928; and finally a decrease to an index of 179 in 1930. Hourly earnings were 79 per cent higher in 1930 than in 1913.

Average full-time earnings per week followed somewhat the same course as earnings per hour, being modified only by changes from year to year of average full-time hours per week. They increased from an index of 97.6 in 1910 to 178.8 in 1919; decreased to 156.5 in 1921; increased to 169.9 in 1923; decreased to 167.6 in 1925; and increased to 169.7 in 1928. Full-time earnings per week in 1930 were 63.9 per cent higher than in 1913.

TABLE 1.—AVERAGE HOURS AND EARNINGS, WITH INDEX NUMBERS, IN SAWMILLS, 1910 TO 1930

Year	Number of establishments	Number of wage earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Index numbers (1913=100) of—		
						Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations:								
1910	245	23,316	61.3	$0.180	$10.99	100.3	97.3	97.6
1911	299	31,495	61.4	.176	10.76	100.5	95.1	95.6
1912	361	34,884	61.5	.178	10.89	100.7	96.2	96.7
1913	361	34,328	61.1	.185	11.26	100.0	100.0	100.0
1915	348	39,879	61.1	.169	10.30	100.0	91.4	91.5
1919	141	18,022	56.1	.360	20.13	91.8	194.6	178.8
1921 [1]	279	33,115	57.2	.308	17.62	93.6	166.5	156.5
All occupations:								
1921 [1]	279	45,667	58.0	.334	19.37	----	----	----
1923	252	45,068	58.1	.362	21.03	93.8	180.5	169.9
1925	299	61,193	58.1	.357	20.74	93.8	178.0	167.6
1928	319	58,007	56.6	.371	21.00	91.3	184.9	169.7
1930	324	50,951	56.5	.359	20.28	91.2	179.0	163.9

[1] Two sets of averages are shown for 1921 for the industry—one for selected occupations and the other for all occupations in the industry. The 1910 to 1921 averages for selected occupations only are comparable one year with another, as are those for all occupations from 1921 to 1930.

Table 2 shows average full-time hours per week, earnings per hour, and full-time earnings per week for 1928 and 1930 for each of the important occupations in the industry, and also for the group listed in the table as "other employees" (including wage earners in all occupations other than those in the important occupations). Between 1928 and 1930 there was no change in average full-time hours per week of wage earners in 4 of the important occupations in the industry, an increase in 6, and a decrease in 13 occupations. The average for "other employees" increased from 56.3 in 1928 to 57.0 in 1930. Average earnings per hour and full-time earnings per week were less in 1930 than in 1928 in 22 occupations and more in 1 occupation. Average earnings for "other employees" were less in 1930 than in 1928.

Average full-time hours per week in the various occupations in the industry ranged, in 1928, from 55.2 for resaw sawyers, trimmer loaders, and graders to 57.8 for yardmen, and in 1930 from 55 for tallymen to 58.4 for yardmen. The averages for wage earners in all occupations combined were 56.6 in 1928 and 56.5 in 1930.

Average earnings per hour in the various occupations ranged, in 1928, from 29.3 cents for yardmen to 88.7 cents for head band sawyears; in 1930 these same two occupations again represented the two extremes, their earnings being 24.2 and 88.6 cents, respectively. The averages for all wage earners in all occupations combined were 37.1 cents in 1928 and 35.9 cents in 1930.

As regards average full-time earnings, those of yardmen were the lowest and those of head band sawyers the highest in both years, being $16.94 and $50.29 respectively, in 1928, and $14.13 and $49.53 in 1930. The averages for all wage earners in all occupations combined were $21 in 1928, and $20.28 in 1930.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN SAWMILLS, 1928 AND 1930, BY OCCUPATIONS

Occupation	Number of establishments		Number of wage earners		Average full-time hours per week		Average earnings per hour		Average full-time earnings per week	
	1928	1930	1928	1930	1928	1930	1928	1930	1928	1930
Pondmen (including boommen and slipmen)	248	246	1,344	1,338	56.9	56.9	$0.357	$0.344	$20.31	$19.57
Yardmen, log	86	96	283	337	57.8	58.4	.293	.242	16.94	14.13
Sawyers, head, band	288	286	668	597	56.7	55.9	.887	.886	50.29	49.53
Sawyers, head, circular	45	50	58	59	57.6	58.0	.740	.666	42.62	38.63
Doggers	281	271	961	749	57.6	57.9	.335	.306	19.30	17.72
Setters	313	322	742	684	56.5	56.5	.468	.451	26.44	25.48
Saw tailers (on head saws)	305	323	738	668	56.4	56.2	.355	.336	20.02	18.88
Sawyers, gang	76	72	121	96	56.1	56.4	.533	.506	29.90	28.54
Sawyers, resaw	173	163	346	307	55.2	55.7	.475	.460	26.22	25.62
Edgermen	318	323	923	804	56.7	56.4	.470	.461	26.65	26.00
Edger tailers	272	308	708	688	56.7	56.5	.319	.301	18.09	17.01
Transfer men	172	177	708	675	55.5	55.2	.341	.344	18.93	18.99
Trimmer loaders	216	199	630	518	55.2	55.8	.379	.366	20.92	20.42
Trimmer operators	318	308	585	518	55.8	55.8	.429	.398	23.94	22.21
Off-bearers (except on head saw)	208	195	860	615	55.9	55.8	.317	.315	17.72	17.58
Graders	292	307	1,562	2,110	55.2	55.2	.503	.474	27.77	26.16
Sorters	274	284	4,138	3,778	55.5	55.3	.357	.344	19.81	19.02
Truckers	293	310	3,137	3,010	57.3	56.8	.323	.307	18.51	17.44
Stackers	275	285	4,317	4,663	57.5	57.2	.371	.364	21.33	20.82
Machine feeders, planers	240	252	1,782	1,338	55.7	55.5	.373	.365	20.78	20.26
Machine feeders, saws	(1)	270	(1)	1,583	(1)	56.8	(1)	.314	(1)	17.84
Tallymen	195	218	680	743	55.3	55.0	.451	.447	24.94	24.59
Millwrights	263	285	701	678	56.0	55.6	.611	.593	34.22	32.97
Laborers	314	324	22,026	16,744	56.9	56.6	.303	.291	17.24	16.47
Other employees	314	319	9,971	7,651	56.3	57.0	.438	.418	24.66	23.83
Total	319	324	58,007	50,951	56.6	56.5	.371	.359	21.00	20.28

[1] Included in "Other employees."

Hours and Earnings, 1928 and 1930, by State

TABLE 3 shows the average hours and earnings by States in 1928 and 1930.

In Alabama average full-time hours per week increased from 60.5 in 1928 to 60.8 in 1930, but in the same period earnings per hour decreased from 24.3 to 21.8 cents, while average full-time earnings per week decreased from $14.70 to $13.25.

Between 1928 and 1930 average earnings per hour decreased in 15 and increased in 7 of the 22 States included in the studies of the industry in these years.

Average full-time hours per week in 1928 ranged in various States from 48 to 61.3 and in 1930 from 48.1 to 61.3. Average earnings per

hour in 1928 ranged from 22.7 to 56.6 cents and in 1930 from 21.8 to 57.5 cents, while average full-time earnings per week in 1928 ranged from $13.67 to $28.61 and in 1930 from $12.64 to $29.11.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN SAWMILLS, 1928 AND 1930, BY STATES

State	Number of establishments		Number of wage earners		Average full-time hours per week		Average earnings per hour		Average full-time earnings per week	
	1928	1930	1928	1930	1928	1930	1928	1930	1928	1930
Alabama	21	28	3,747	3,760	60.5	60.8	$0.243	$0.218	$14.70	$13.25
Arkansas	15	15	4,250	3,569	59.2	58.5	.303	.301	17.94	17.61
California	14	14	3,496	2,650	56.1	53.7	.510	.542	28.61	29.11
Florida	12	12	2,321	2,191	61.3	61.3	.261	.236	16.00	14.47
Georgia	19	29	1,813	2,107	59.3	58.0	.244	.218	14.47	12.64
Idaho	-	5	1,769	1,205	48.0	48.1	.547	.575	26.26	27.66
Kentucky	9	9	435	500	57.2	57.3	.349	.341	19.96	19.54
Louisiana	18	19	5,214	4,732	59.4	60.0	.286	.287	16.99	17.22
Maine	12	11	732	515	58.9	59.2	.354	.352	20.85	20.84
Michigan	23	14	2,381	1,858	59.0	58.3	.387	.380	22.83	22.15
Minnesota	4	4	1,860	794	60.4	60.3	.409	.413	24.70	24.90
Mississippi	16	20	4,835	4,405	59.6	59.7	.290	.282	17.28	16.84
Montana	5	5	1,142	702	50.7	52.0	.488	.504	24.74	26.21
North Carolina	23	32	2,030	2,458	60.2	59.0	.260	.222	15.65	13.10
Oregon	14	15	4,362	3,837	48.4	48.6	.566	.573	27.39	27.85
South Carolina	10	8	1,962	1,920	60.2	60.1	.227	.225	13.67	13.52
Tennessee	20	17	1,646	994	58.2	56.8	.320	.315	18.62	17.89
Texas	11	11	2,502	2,350	58.3	58.7	.299	.296	17.43	17.38
Virginia	18	9	850	887	59.7	59.9	.295	.259	17.61	15.51
Washington	21	21	7,283	6,398	48.1	48.1	.552	.549	26.55	26.41
West Virginia	10	9	828	903	60.1	59.0	.409	.430	24.58	25.37
Wisconsin	19	17	2,549	2,216	59.6	59.1	.363	.362	21.63	21.39
Total	319	324	58,007	50,951	56.6	56.5	.371	.359	21.00	20.28

Hours and Earnings, 1930, by Occupation and State

THE data in Table 4 are limited to the wage earners in six of the representative occupations in the industry, and illustrate the variations of hours and earnings of the wage earners in all occupations in the industry.

Average full-time hours per week for head band sawyers ranged in the various States from 48 to 60.4 and for all States combined averaged 55.9. By States, average earnings per hour ranged from 66.5 cents to $1.188 and for all States combined averaged 88.6 cents. Average full-time earnings per week ranged by States from $39.23 to $57.02, and for all States combined averaged $49.53.

TABLE 4.—AVERAGE HOURS AND EARNINGS IN SIX REPRESENTATIVE OCCUPATIONS, 1930, BY STATES

Occupation and State	Number of establishments	Number of wage earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Sawyers, head, band:					
Alabama	23	34	57.0	$0.803	$45.77
Arkansas	15	33	58.1	.813	47.24
California	14	46	53.3	1.044	55.65
Florida	10	20	54.0	.966	52.16
Georgia	22	22	57.6	.743	42.80
Idaho	5	19	48.0	.944	45.33
Kentucky	8	10	57.5	.777	44.68
Louisiana	16	51	60.4	.879	53.09
Maine	7	10	58.9	.666	39.23
Michigan	14	27	58.5	.757	44.28
Minnesota	3	13	60.0	.877	52.62
Mississippi	19	46	57.9	.860	49.79
Montana	5	13	52.2	.968	50.53
North Carolina	21	25	59.6	.665	39.63
Oregon	15	51	48.9	1.135	55.50
South Carolina	7	14	60.0	.794	47.64
Tennessee	17	23	56.5	.872	49.27
Texas	11	33	58.8	.841	49.45
Virginia	9	14	59.6	.666	39.69
Washington	19	48	48.0	1.188	57.02
West Virginia	9	17	58.3	.819	47.75
Wisconsin	17	28	59.2	.748	44.28
Total	286	597	55.9	.886	49.53
Doggers:					
Alabama	27	84	61.2	.211	12.91
Arkansas	14	62	58.4	.273	15.94
California	6	11	54.5	.440	23.98
Florida	10	33	61.5	.196	12.05
Georgia	27	54	58.1	.185	10.75
Idaho	3	10	48.0	.580	27.84
Kentucky	9	16	57.2	.333	19.05
Louisiana	15	72	60.6	.271	16.42
Maine	9	16	59.3	.327	19.39
Michigan	13	29	59.0	.390	23.01
Minnesota	3	20	60.0	.515	30.90
Mississippi	11	28	60.0	.267	16.02
Montana	1	(1)	(1)	(1)	(1)
North Carolina	31	53	59.1	.221	13.06
Oregon	10	26	48.9	.511	24.99
South Carolina	6	22	60.0	.225	13.50
Tennessee	17	34	56.8	.315	17.89
Texas	7	43	58.5	.292	17.08
Virginia	9	22	59.8	.247	14.77
Washington	17	58	48.1	.491	23.62
West Virginia	9	18	58.4	.410	23.94
Wisconsin	17	34	59.1	.390	23.05
Total	271	749	57.9	.306	17.72
Setters:					
Alabama	28	46	61.0	.301	18.36
Arkansas	15	31	58.3	.376	21.92
California	14	48	52.8	.648	34.21
Florida	12	20	61.0	.339	20.68
Georgia	28	30	58.0	.291	16.88
Idaho	5	18	48.0	.660	31.68
Kentucky	9	11	56.4	.412	23.24
Louisiana	19	60	59.9	.413	24.74
Maine	11	19	59.1	.415	24.53
Michigan	14	28	58.5	.452	26.44
Minnesota	3	13	60.0	.538	32.28
Mississippi	20	54	59.4	.401	23.82
Montana	5	20	51.6	.591	30.48
North Carolina	32	38	58.6	.281	16.47
Oregon	15	59	48.8	.670	32.70
South Carolina	8	20	60.0	.288	17.28
Tennessee	17	21	56.5	.412	23.28
Texas	11	33	58.7	.376	22.07
Virginia	9	14	59.6	.332	19.79
Washington	21	52	48.0	.623	29.90
West Virginia	9	19	58.5	.470	27.50
Wisconsin	17	30	59.2	.447	26.46
Total	322	684	56.5	.451	25.48

[1] Data included in total.

TABLE 4.—AVERAGE HOURS AND EARNINGS IN SIX REPRESENTATIVE OCCUPATIONS, 1930, BY STATES—Continued

Occupation and State	Number of establishments	Number of wage earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Saw tailers on head saw:					
Alabama	28	42	60.8	$0.195	$11.86
Arkansas	15	41	58.3	.261	15.22
California	14	48	52.9	.469	24.81
Florida	12	22	60.9	.203	12.36
Georgia	29	30	58.0	.185	10.73
Idaho	5	20	48.0	.464	22.27
Kentucky	9	10	56.5	.322	18.19
Louisiana	19	52	60.0	.259	15.54
Maine	11	15	58.9	.353	20.79
Michigan	14	27	58.7	.366	21.48
Minnesota	3	14	60.0	.387	23.22
Mississippi	20	41	59.3	.254	15.06
Montana	5	12	52.0	.497	25.84
North Carolina	32	40	58.7	.221	12.97
Oregon	15	58	48.9	.521	25.48
South Carolina	8	17	60.0	.223	13.38
Tennessee	17	20	56.6	.292	16.53
Texas	11	33	58.5	.261	15.27
Virginia	9	14	59.6	.265	15.79
Washington	21	66	48.0	.529	25.39
West Virginia	9	16	58.2	.382	22.23
Wisconsin	17	30	59.2	.349	20.66
Total	323	668	56.2	.336	18.88
Edgermen:					
Alabama	28	56	61.1	.304	18.57
Arkansas	15	40	57.9	.393	22.75
California	14	52	52.6	.691	36.35
Florida	12	31	61.2	.371	22.71
Georgia	29	30	57.9	.325	18.82
Idaho	5	26	48.0	.628	30.14
Kentucky	9	10	56.5	.458	25.88
Louisiana	19	87	60.2	.361	21.73
Maine	10	14	58.8	.429	25.23
Michigan	14	28	58.8	.441	25.93
Minnesota	4	13	60.0	.501	30.06
Mississippi	20	80	59.1	.368	21.75
Montana	5	13	52.2	.586	30.57
North Carolina	32	37	58.7	.267	15.67
Oregon	15	66	49.0	.739	36.21
South Carolina	8	21	60.0	.335	20.10
Tennessee	17	21	56.9	.412	23.44
Texas	11	37	59.0	.383	22.60
Virginia	9	14	59.6	.318	18.95
Washington	21	83	48.2	.679	32.73
West Virginia	9	16	58.2	.507	29.51
Wisconsin	17	29	59.1	.451	26.65
Total	323	804	56.4	.461	26.00
Laborers:					
Alabama	28	1,224	60.6	.179	10.85
Arkansas	15	1,252	58.6	.238	13.95
California	14	736	53.5	.436	23.33
Florida	12	904	61.7	.178	10.98
Georgia	29	844	57.9	.154	8.92
Idaho	5	326	48.0	.507	24.34
Kentucky	9	195	57.8	.271	15.66
Louisiana	19	1,479	60.0	.229	13.74
Maine	11	135	59.1	.312	18.44
Michigan	14	502	58.2	.324	18.86
Minnesota	4	292	60.0	.365	21.90
Mississippi	20	1,481	59.6	.224	13.35
Montana	5	209	51.5	.433	22.30
North Carolina	32	794	59.1	.179	10.58
Oregon	15	1,108	48.4	.490	23.72
South Carolina	8	617	60.0	.162	9.72
Tennessee	17	413	57.1	.253	14.45
Texas	11	611	58.7	.242	14.21
Virginia	9	380	59.9	.209	12.52
Washington	21	2,145	48.1	.473	22.75
West Virginia	9	321	58.9	.348	20.50
Wisconsin	17	776	58.9	.310	18.26
Total	324	16,744	56.6	.291	16.47

Recent Changes in Wages and Hours of Labor

INFORMATION received by the bureau regarding recent wage changes is presented below in two distinct groups: Part 1 relates to manufacturing establishments that report monthly figures regarding volume of employment, while part 2 presents data obtained from new trade agreements and other miscellaneous sources. Although the effort is made, it is not always possible to avoid duplication of data as between parts 1 and 2.

Part 1. Wage Changes in Manufacturing Industries

THREE establishments in three manufacturing industries reported wage-rate *increases* during the month ending February 15. These increases, averaging 5.4 per cent, affected 209 employees, or 65 per cent of all employees in the establishments concerned.

Two hundred and twenty-eight establishments in 43 industries reported wage-rate *decreases* during the same period. These decreases, averaging 10.3 per cent, affected 39,096 employees, or 84 per cent of all employees in the establishments concerned.

Fifty-five of the wage-rate *decreases* were reported by establishments in the textile group of industries; 35 *decreases* were in iron and steel industries; 55 *decreases* were in lumber industries.

WAGE CHANGES OCCURRING BETWEEN JANUARY 15 AND FEBRUARY 15, 1931

Industry	Establishments		Per cent of increase or decrease in wage rate		Employees affected		
	Total number reporting	Number reporting increase or decrease in wage rates	Range	Average	Total number	Per cent of employees	
						In establishments reporting increase or decrease in wage rates	In all establishments reporting
			Increases				
Printing, book and job	555	1	2.0	2.0	29	49	(1)
Fertilizers	207	1	5.0	5.0	15	15	(1)
Glass	140	1	6.0	6.0	165	100	1
			Decreases				
Slaughtering and meat packing	208	3	5.0–10.0	8.4	138	74	(1)
Confectionery	329	3	10.0–15.0	10.6	109	60	(1)
Ice cream	336	1	10.0	10.0	7	100	(1)
Flour	401	4	10.0	10.0	111	93	1
Baking	706	6	10.0	10.0	89	58	(1)
Cotton goods	452	21	7.5–25.0	11.6	6,036	86	4
Hosiery and knit goods	354	9	7.0–20.0	9.4	5,368	99	6
Silk goods	262	5	2.0–10.0	8.0	532	71	1
Woolen and worsted goods	174	13	10.0–12.5	11.4	3,317	99	6
Carpets and rugs	28	1	10.0	10.0	2,700	90	16
Dyeing and finishing textiles	117	2	10.0	10.0	667	100	2
Clothing, men's	333	2	9.0–10.0	9.9	448	73	1
Shirts and collars	113	1	25.0	25.0	169	84	1

[1] Less than one-half of 1 per cent.

WAGE CHANGES OCCURRING BETWEEN JANUARY 15 AND FEBRUARY 15, 1931—Con.

Industry	Establishments		Per cent of increase or decrease in wage rate		Employees affected		
	Total number reporting	Number reporting increase or decrease in wage rates	Range	Average	Total number	Per cent of employees	
						In establishments reporting increase or decrease in wage rates	In all establishments reporting
			Decreases				
Millinery and lace goods	116	1	10.0	10.0	30	73	(1)
Iron and steel	199	3	5.0- 7.5	6.8	555	85	(1)
Structural-iron work	176	6	5.0-20.0	10.0	765	74	3
Foundry and machine-shop products	1,077	19	5.0-15.0	10.6	1,293	62	1
Machine tools	146	1	10.0	10.0	42	100	(1)
Steam fittings and steam and hot-water heating apparatus	106	4	10.0-18.2	10.2	563	29	2
Stoves	131	2	9.0-12.5	10.5	332	100	2
Lumber, sawmills	648	29	6.0-17.5	11.4	3,908	99	4
Lumber, millwork	340	9	10.0-16.0	10.8	300	69	1
Furniture	458	17	3.0-20.0	10.1	860	67	1
Leather	131	6	5.0-11.0	9.6	793	100	3
Boots and shoes	298	5	8.0-12.0	10.0	2,147	93	2
Paper and pulp	218	4	8.0-10.0	9.8	1,288	95	2
Paper boxes	309	10	10.0	10.0	1,777	88	8
Printing, book and job	555	5	5.0-20.0	7.2	644	90	1
Printing, newspapers	422	5	6.0-17.5	10.7	521	78	1
Chemicals	162	1	10.0	10.0	7	100	(1)
Fertilizers	207	3	5.0-16.7	6.7	125	89	1
Brick, tile, and terra cotta	689	3	10.0-11.0	10.1	251	100	1
Pottery	115	1	10.0	10.0	40	75	(1)
Glass	140	2	5.0-25.0	10.8	179	80	1
Stamped and enameled ware	77	3	10.0	10.0	554	80	3
Brass, bronze, and copper products	156	3	5.0	5.0	45	47	(1)
Chewing and smoking tobacco and snuff	27	1	18.0	18.0	60	21	1
Cigars and cigarettes	190	6	5.0-10.0	8.8	1,750	69	4
Pianos and organs	68	1	10.0	10.0	166	91	3
Automobile tires and inner tubes	35	1	10.0	10.0	24	55	(1)
Jewelry	152	2	10.0	10.0	232	85	2
Paint and varnish	233	3	10.0	10.0	87	67	1
Rubber goods, other than boots, shoes, tires, and inner tubes	71	1	10.0	10.0	67	100	1

[1] Less than one-half of 1 per cent.

Part 2. Wage Changes Reported by Trade-Unions since December, 1930

WAGE and hour changes reported by trade-unions, and in a few instances received from other sources, are given in the table following. Since last month changes occurring since December have been reported for 14,451 workers, 12,687 of whom were reported to have adopted the 5-day week. Of the changes in wages shown, 1,676 workers received reductions, nearly 1,000 of these being in the building trades.

Wage increases in building trades were quite irregular in amount, ranging from 2¾ cents per hour to 15 cents per hour. Among the printing trades, with one exception, the increase amounted to $1 per week.

RECENT UNION WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY DECEMBER, 1930, TO MARCH, 1931

Industry, occupation, and locality	Date of change	Rate of wages		Hours per week	
		Before change	After change	Before change	After change
		Per week	*Per week*		
Barbers, Schenectady, N. Y.	Feb. 9	[1] $26.00	[2] $26.00	([3])	([3])
Building trades:					
Bricklayers, masons, and plasterers—		*Per hour*	*Per hour*		
Ann Arbor, Howell, Ypsilanti, Mich., and vicinity	Feb. 1	$1.57½	$1.50	40	40
Fort Worth, Tex., and vicinity	Jan. 2	1.62½	1.62½	44	40
State of Ohio	do	1.62½	1.62½	44	40
Carpenters—					
Monongahela Valley, Pa.	Mar. 1	1.25	1.00	44	40
Syracuse, N. Y.	Jan. 1	1.20	1.32	44	40
Electrical workers, Kansas City, Mo.	Mar. 1	1.37½	1.50	40	40
Hod carriers and laborers—					
Klamath Falls, Oreg., laborers, paving and grading	Feb. 1	.56¼	.59	48	48
Syracuse, N. Y., building laborers	Jan. 1	.75	.82½	44	40
Plasterers—					
Jackson, Miss.	Feb. 1	1.50	1.25	44	44
Kansas City, Mo.	Mar. 1	1.50	1.62½	40	40
Monongahela Valley, Pa.	Feb. 1	1.62½	1.25	40	40
Muskegon, Mich.	Dec. 2	1.50	1.00	40	40
Muskegon Heights, Mich.	do	1.50	1.00	40	40
North Muskegon, Mich.	do	1.50	1.00	40	40
Syracuse, and Onondaga County, N. Y.	Jan. 1	1.50	1.65	44	40
Plumbers and steamfitters—					
Alhambra, Pasadena, and South Pasadena, Calif.	Dec. 5	1.12½	1.12½	44	40
Campbell and Kenton Counties, Ky.	Mar. 1	1.40	1.46¼	44	40
Hamilton County, Ohio	do	1.40	1.46¼	44	40
Long Beach, Calif.	Jan. 5	1.25	1.25	44	40
Clothing: Shoe workers, Haverhill, Mass.	Jan. 21	([4])	([5])	([4])	45
Metal trades: Stove mounters and pattern men, Belleville, Ill.	Jan. 1	.83–1.00	.73–.87½	48	[6] 48
		Per day	*Per day*		
Miners: Coal miners, Ronda, W. Va.	do	$4.20–4.68	$3.00–4.00	48	48
Printing trades:					
Compositors—		*Per week*	*Per week*		
Bismarck, N. Dak., newspaper	do	$46.56	$46.56	48	47
Chester and Media, Pa., job work	do	30.80–35.00	35.00–38.00	44	44
Kansas City, Mo., newspaper	Jan. 9	45.00	([7])	44	40
Lincoln, Ill.—					
Job work	Jan. 1	37.00–39.00	38.00–40.00	44	44
Newspaper	do	37.00–39.00	38.00–40.00	44	44
Orange, N. J., and vicinity—					
Job work, day	do	56.00	57.00	44	44
Job work night	do	59.00	60.00	40	40
Spokane, Wash.—					
Newspaper, day	Feb. 1	46.50	([7])	45	[8] 40
Newspaper, night	do	49.50	([7])	45	[8] 40
Yonkers, N. Y.—					
Job work	Jan. 1	54.00	55.00	44	44
Newspaper	do	54.00	55.00	44	44
Machine operators, Kansas City, Mo.	Jan. 9	47.25	([7])	44	40
Mailers, New York, N. Y.	Jan. 1	45.00	46.00	44	44

[1] And 50 per cent of receipts over $32.
[2] And 50 per cent of receipts over $36.
[3] 5½-day week; hours irregular, average 9½ for full day.
[4] Not reported.
[5] 9 per cent reduction.
[6] 40-hour week June 15 to Sept. 15.
[7] No change in hourly rate.
[8] Temporary relief measure running 90 days, Feb. 1 to May 1, 1931.

Farm Wage and Labor Situation on January 1, 1931

THE index number of the general level of farm wages on January 1, 1931, was lower than on any other date for which the United States Department of Agriculture has compiled quarterly data on farm wages; that is, since 1923. The accompanying table, reproduced from Crops and Markets for February, 1931, published by that department, shows farm wage rates and index numbers, by years, from 1910 to 1930, and quarterly from 1923 to January, 1931.

FARM WAGE RATES AND INDEX NUMBERS, 1910-1931

Year and month	Average yearly farm wage[1]				Index numbers of farm wages (1910-1914=100)
	Per month—		Per day—		
	With board	Without board	With board	Without board	
1910	$19.58	$28.04	$1.07	$1.40	97
1911	19.85	28.33	1.07	1.40	97
1912	20.46	29.14	1.12	1.44	101
1913	21.27	30.21	1.15	1.48	104
1914	20.90	29.72	1.11	1.44	101
1915	21.08	29.97	1.12	1.45	102
1916	23.04	32.58	1.24	1.60	112
1917	28.64	40.19	1.56	2.00	140
1918	35.12	49.13	2.05	2.61	176
1919	40.14	56.77	2.44	3.10	206
1920	47.24	65.05	2.84	3.56	239
1921	30.25	43.58	1.66	2.17	150
1922	29.31	42.09	1.64	2.14	146
1923	33.09	46.74	1.91	2.45	166
1924	33.34	47.22	1.88	2.44	166
1925	33.88	47.80	1.89	2.46	168
1926	34.86	48.86	1.91	2.48	171
1927	34.58	48.63	1.90	2.46	170
1928	34.66	48.65	1.88	2.43	169
1929	34.74	49.08	1.88	2.42	170
1930	31.14	44.59	1.65	2.16	152
1923—January	27.87	40.50	1.46	1.97	137
April	30.90	44.41	1.55	2.09	148
July	34.64	48.61	1.84	2.44	169
October	34.56	48.42	2.02	2.58	174
1924—January	31.55	45.53	1.79	2.38	159
April	33.57	47.38	1.77	2.34	163
July	34.34	48.02	1.87	2.43	168
October	34.38	48.46	1.93	2.51	171
1925—January	31.07	45.04	1.74	2.31	156
April	33.86	47.40	1.77	2.33	164
July	34.94	48.55	1.89	2.44	170
October	34.91	48.99	1.95	2.53	173
1926—January	31.82	46.26	1.76	2.33	159
April	34.38	48.40	1.78	2.35	166
July	36.10	49.89	1.91	2.47	174
October	36.00	50.10	1.97	2.55	176
1927—January	32.94	47.07	1.79	2.36	162
April	34.53	48.47	1.78	2.37	166
July	35.59	49.52	1.89	2.44	172
October	35.68	49.77	1.96	2.51	175
1928—January	32.50	46.75	1.76	2.34	161
April	34.46	48.44	1.78	2.34	166
July	35.39	49.32	1.84	2.39	170
October	35.75	49.60	1.96	2.51	175
1929—January	33.04	47.24	1.78	2.34	162
April	34.68	49.00	1.79	2.34	167
July	36.08	50.53	1.89	2.43	173
October	35.90	50.00	1.92	2.46	174
1930—January	32.29	46.80	1.73	2.27	159
April	33.83	47.81	1.72	2.27	162
July	33.47	47.24	1.72	2.23	160
October	31.23	44.28	1.61	2.12	150
1931—January	26.03	39.04	1.38	1.87	129

[1] Yearly averages are from reports by crop reporters, giving average wages for the year in their localities, except for 1924–1930, when the wage rates per month are a straight average of quarterly rates, April, July, October of the current year, and January of the following year and the wage rates per day are a weighted average of quarterly rates. April (weight 1), July (weight 5), October (weight 5), January of the following year (weight 1).

The comments of the Department of Agriculture on the farm wage and labor situation on January 1, 1931, as published in Crops and Markets, are as follows:

A sharp increase in the supply of farm labor together with a further decline in the demand for farm workers forced the index of the general level of farm wages for January 1, 1931, to the lowest level on record for that date during the period in which the index has been computed quarterly (1923–1931). The wage index, at 129 per cent of the pre-war level on the first of the year, was 21 points down from October 1, 1930, 30 points under a year ago, and 8 points below January 1, 1923. The seasonal decline of 21 points from October 1 to January 1 was the largest recorded between those two dates and compared with an average seasonal decline of 13.9 points for the corresponding period during the preceding five years.

Day wages of farm workers not provided with board averaged $1.87 for the country as a whole on January 1, while the division averages ranged from $2.99 per day for the North Atlantic States to $1.25 in the South Central Division. Scattered reports have been received indicating that laborers are willing to work in many localities merely for their bed and board.

It is not surprising, therefore, that wages paid hired farm labor during 1930 averaged lower than in any year since 1922. The weighted average index of farm wages for last year indicated a level 152 per cent of pre-war compared to 170 per cent in 1929, and 146 per cent of pre-war in 1922.

The supply of farm labor, as reported by crop correspondents, average 113.8 per cent of normal on January 1, compared to 109.6 per cent a month earlier, 105.9 per cent on October 1, 1930, and 96.7 per cent of normal a year ago. The advance in the supply has been due to the long continued decline in industrial employment. An index computed by the Bureau of Labor Statistics indicates that the level of employment in manufacturing industries was 75.1 per cent in December, 1930, compared to 79.7 per cent in September of the same year, 91.9 per cent in December, 1929, and a monthly average for 1926 which equaled 100 per cent.

Although a large number of workers formerly employed in manufacturing industries are now available for farm work, the demand for farm labor is the smallest in many years due to the extremely low prevailing prices of farm products. Demand was reported at 66.6 per cent of normal on January 1, compared to 68.9 per cent a month earlier, 75.2 per cent on October 1, and 84.2 per cent of normal a year ago. The supply of farm workers expressed as per cent of demand was about 171 per cent of normal on January 1 compared to 159 per cent a month earlier, 141 per cent on October 1, 1930, and 115 per cent of normal a year ago.

Abolition of Night Employment of Women and Minors in Cotton-Textile Industry

UNDER date of March 2, 1931, the Journal of Commerce (New York) carries the following announcement:

The Cotton Textile Institute is able to announce to-day that it has secured an agreement within the cotton manufacturing industry whereby the practice of employing women and minors at night will be discontinued, and beginning to-day the policy of operating plants on day and night schedules, save in times of national emergency, will be gradually wiped out. Meanwhile the policy of regulating output to demand will be continued as at present until it becomes evident that the abolishment of night work will bring about all the regulation that will be necessary under present trade conditions. The final drive to secure the percentage of signatures required was of the most intensive character and was successful in consequence of trade and public opinion being worked in harmony to bring the change about.

Wage-Payment Plans in Connecticut Factories

A STUDY of methods of wage payment in use in Connecticut factories was made in December, 1929, by members of the economics department of Yale University. The results of the study

are given in an article in Factory and Industrial Management (Chicago) for March, 1931.

The survey disclosed a definite trend toward the basing of wages on output. Data furnished by 132 firms employing over 88,000 workers, or more than one-fourth of the total number of industrially employed persons in the State, showed that 52 per cent of these workers were paid on some kind of an output basis. Of the total, 37.5 per cent were paid piece rates and 14.5 per cent were working under some form of incentive system, the remainder (48 per cent) being on day rates. Straight time was the exclusive basis of payment in only 13 plants. Of 104 plants replying to the question as to the use of incentive plans, 25 reported an increase in number of workers under such plans; 4, a decrease; and 75, no change. A large percentage of the reporting plants used some method of time study or job analysis in setting wage rates.

Table 1 shows the number and per cent of employees who were working on piece or day rates or under incentive systems in the industries represented by the 132 firms mentioned above:

TABLE 1.—NUMBER AND PER CENT OF EMPLOYEES IN EACH INDUSTRY WORKING ON PIECE OR DAY RATES OR INCENTIVE SYSTEMS

Industry	Number of workers	Number of establishments	Per cent of employees working on—		
			Piece rates	Bonus or other incentive systems	Day rates
Light metal	65,400	80	36.2	16.8	47.0
Textiles	9,000	20	46.0	9.0	45.0
Foundry	2,400	6	20.1	13.7	66.2
Machinery	4,000	9	24.2	9.6	66.2
Rubber	4,200	3	73.6	.....	26.4
Paper	2,400	7	7.7	6.5	85.8
Tobacco	200	2	22.2	53.4	24.4
Hats	900	5	70.6	.....	29.4
Total	88,500	132	37.5	14.5	48.0

The number and per cent of employees and the number of plants working under specified incentive systems are given in Table 2:

TABLE 2.—NUMBER AND PER CENT OF EMPLOYEES AND NUMBER OF PLANTS WORKING UNDER SPECIFIED INCENTIVE SYSTEMS

System of payment	Employees		Number of plants
	Number	Per cent of total	
Bedeaux point	3,431	26.8	9
Emerson bonus	2,931	22.9	3
Task and bonus (details not given)	2,230	17.4	14
Time premium	2,278	17.8	7
Group systems	236	1.8	5
C. L. Stevens point	418	3.3	1
Parkhurst differential bonus	385	3.0	1
Keys-Weaver system	248	2.0	1
Sherman Co. system	142	1.1	1
General Electric Co	134	1.0	1
George S. May	93	.7	1
Miscellaneous	280	2.2	1
Total	12,806	100.0	[1] 49

[1] Not the sum of the items, but as given in article under review.

Vacations in Manufacturing Industries in New York State

THE New York Bureau of Women in Industry conducted a study in 1925 of vacation policies in manufacturing industries throughout New York State. At that time it was found that while almost all the plants covered in the investigation granted vacations with pay to office workers, and many of them to foremen, the practice of giving vacations to production workers had a much more limited application. In addition to the fact that fewer plants gave vacation to the wage earners, it was also true that the length of such vacations when given was usually shorter and the period of service required to earn a vacation ordinarily considerably longer than that required of other workers. In order to determine whether, in the intervening five years, any marked change had been made in the vacation policies of firms in the State, a similar study was made by the New York bureau in the summer of 1930.[1]

In the 1930 study the vacation policies of 1,050 plants were studied. It was found that in 661 cases the same policy was in effect as in 1925, and that of that number 151 firms had extended the vacations with pay to include production workers. In 1930, 106 other plants had also extended the practice of giving paid vacations to their production workers; in 1925, 102 of these plants had given vacations only to office workers and foremen, and 4 plants which gave a vacation to factory workers in 1930 had given no vacations at the time of the previous study. Decided changes in the scope of the vacation policies had taken place, since of the plants which gave vacations only to office workers in 1930 as many as 35 per cent had given vacations to foremen also in 1925, while on the other hand 18 per cent of the plants in which foremen received vacations in 1930 had included only office workers in the earlier year and an additional 5 per cent had given no vacations at all at that time. Seventeen of the 36 plants having no vacation policy in 1930 had given vacations to one or all of the three groups of workers in 1925. The business depression of the past year is considered to be the probable cause, in most cases, for the abandonment of these plans.

The fact that plants have a vacation policy for the rank and file of the workers does not necessarily mean that every worker is included. For example, 4 per cent of the firms reported that they gave no vacations to hourly workers, and only 39 per cent of the firms employing pieceworkers gave vacations to this group, while the service requirement excluded varying percentages of the production workers.

There are two types of vacation policies—the uniform plan, in which the length of the vacation is not dependent upon the length of employment, being more than twice as frequent as the graduated plan, in which the length of vacations increases with added years of service until a stated maximum is reached. Among the companies having a uniform plan, office workers ordinarily had a 2-week and the factory workers a 1-week vacation, but since 1925 the number of plants granting two weeks to the latter group had increased 8 per cent. Under the graduated plan the majority of plans provided for a minimum vacation of between one and two weeks for office workers, foremen, and production workers. There was no definite increase in the

[1] New York Department of Labor. The Industrial Bulletin. Albany, December, 1930, pp. 76–78. See also Labor Review, September, 1925, pp. 206, 207.

minimum vacation allowed to office workers under this plan during the period, but for production workers there appeared to be a trend toward lengthening the minimum vacations so as to bring them into line with those of the office workers.

The most usual period of employment required for vacations for any of the three groups—office workers; office workers and foremen; and office workers, foremen, and production workers—was one year, although there was a wide range of variation among different plans.

The time chosen for vacations is usually the summer, partly because that is the most desirable season and partly because in many instances the summer is also the slack season. Only 2 per cent of the plants gave vacations during the fall and winter. Eight per cent of the plants gave all vacations during a general shutdown, but while this plan may be advantageous to the employer it has the disadvantage of an enforced lay-off without pay for those employees not yet eligible for vacations.

In regard to the attitude of employers toward their vacation policies, the report states that although a few viewed the vacation merely as a necessary concession, more frequently the employers regarded it as necessary for the plant workers and as improving the well-being and the morale of the workers. Among some of the positive effects experienced were increased productivity, promptness and regularity of attendance and less absenteeism, and decreased labor turnover. In most cases, when dissatisfaction with the plan was expressed it arose from the practical difficulties in the operation of the plan rather than with the principle involved.

In summing up the results of the study it is stated that, "it must be regarded as very encouraging that over a 5-year period there has been a 7 per cent increase in the proportion of plants granting vacations to production workers. This increase is the more significant in that it has been measured in a year of industrial depression. A few firms definitely stated that they had curtailed their vacation policies due to the depression, but the number that would perhaps have extended their policies in more prosperous times can not be estimated."

Railway Workers' Hours in Western Australia

AS A result of an application on the part of the Commissioner of Railways of Western Australia for a revision of existing awards in regard to conditions of railway service, the State court of arbitration recently amended the existing award so as to permit a 48-hour week for most railway workers, instead of the 44-hour week they were working up to December 28, 1930. The amended award was published under date of December 22, and included alterations in certain special allowances. The changes in regard to hours, as given in the Industrial News (Perth, Western Australia) for December, 1930, are as follows:

> Forty-eight hours, exclusive of Sunday time, shall constitute a week's work. No day's work shall exceed 8 hours 48 minutes without payment of overtime.
>
> The provision herein contained as to hours of work shall not apply in the case of female workers, whose hours shall remain as at present.
>
> In the case of signalmen whose hours as provided for in the award are 36 per week, such hours shall be extended to 40 hours per week in lieu of the 48 provided for in clause 2 hereof.

While a 48-hour week is thus expressly permitted, it is also provided that the railway commissioner may employ the workers affected for 44 hours per week, or any less number he may deem advisable, provided that not more than 5 per cent shall be deducted from their wages as a result of the shorter hours. This arrangement is authorized, it is explained, "in pursuance of and for the purpose of carrying into effect an agreement between the commissioner of railways and the parties concerned whereby the latter for the purpose of retaining the principle of the 44-hour week were prepared to forego 5 per cent of the wages of the workers affected."

Wages and Hours of Labor in Canada, 1929 and 1930

THE following statistics are taken from a report on wages and hours of labor in Canada, 1920 to 1930, published as a supplement to the January, 1931, issue of the Canadian Labor Gazette (Ottawa):

TABLE 1.—INDEX NUMBERS OF RATES OF WAGES OF VARIOUS CLASSES OF LABOR IN CANADA, 1921 TO 1930

[1913=100]

Industry	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Building trades [1]	170.5	162.5	166.4	169.7	170.4	172.1	179.3	185.6	197.5	203.2
Metal trades [2]	186.8	173.7	174.0	175.5	175.4	177.4	178.1	180.1	184.6	186.6
Printing trades [3]	193.3	192.3	188.9	191.9	192.8	193.3	195.0	198.3	202.3	203.3
Electric railway [4]	192.1	184.4	186.2	186.4	187.8	188.4	189.9	194.1	198.6	199.4
Steam railway [5]	195.9	184.4	186.4	186.4	186.4	186.4	198.4	198.4	204.3	204.3
Coal mining [6]	208.3	197.8	197.8	192.4	167.6	167.4	167.9	168.9	168.9	169.4
Simple average	191.2	182.4	183.3	183.7	179.7	180.5	184.3	187.6	192.7	194.4
Common factory labor [7]	190.6	183.0	181.7	183.2	186.3	187.3	187.7	187.1	187.8	188.2
Miscellaneous factory trades [7]	202.0	189.1	196.1	197.6	195.5	196.7	199.4	200.9	202.1	202.3
Logging and saw milling [7]	152.6	158.7	170.4	183.1	178.7	180.8	182.8	184.3	185.6	183.9

[1] 8 trades from 1921 to 1926, 9 for 1927 to 1930.
[2] 5 trades from 1921 to 1926, 4 for 1927 to 1930.
[3] 4 trades for 1921 and 1922, 6 from 1923 to 1930.
[4] 5 classes.
[5] 23 classes.
[6] 12 classes.
[7] The number of samples has been increased each year since 1920.

Table 2 shows the rates of wages paid and hours worked in various occupations in six Canadian cities in 1929 and 1930:

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1929 AND 1930

Occupation	Toronto		Winnipeg		Vancouver	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
Building trades						
Bricklayers:	*Per hour*		*Per hour*		*Per hour*	
1929	$1.30	44	$1.45	44	$1.35	40
1930	1.35	44	1.45	44	1.35	40
Carpenters:						
1929	1.00	44	1.10	44	1.00	44
1930	1.10	44	1.10	44	1.00	44
Electrical workers:						
1929	1.15	44	1.10	44	1.12½	44
1930	1.25	44	1.10	44	1.17½	44
Painters:						
1929	.80-.90	44	.90	44	.90	44
1930	.85-.90	44	.95	44	.90	44

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1929 AND 1930—Continued

Occupation	Toronto		Winnipeg		Vancouver	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
***Building trades*—Continued**						
Plasterers:	*Per hour*		*Per hour*		*Per hour*	
1929	$1.32½	40	$1.35	44	$1.25–1.30	40
1930	1.37½	40	1.45	44	1.35	40
Plumbers:						
1929	1.25	44	1.20	44	1.12½–1.18¾	40
1930	1.25	40–44	1.25	44	1.25	40
Stonecutters:						
1929	1.20	44	1.25	44	1.12½	40–44
1930	1.25	44	1.25	44	1.25	40
Laborers:						
1929	.40–.65	44–60	.40–.50	44–60	.50–.62½	44
1930	.40–.65	44–60	.42½–.50	44–60	.50–.62½	44
Metal trades						
Blacksmiths:						
1929	.60–.65	44–50	.60–.75	50	.75–.87½	44
1930	.60–.65	44–50	.60–.77	40–50	.75–.87½	44
Boilermakers:						
1929	.60–.75	44–48	.60–.74	50	.75–.85	44
1930	.60–.75	44–48	.60–.74	44	.75–.85	44
Machinists:						
1929	.55–.70	44–54	.60–.74	50	.75–.80	44
1930	.60–.70	44–54	.60–.74	40–50	.75–.85	44
Iron molders:						
1929	.60–.70	45–54	.60–.75	44–50	.75–.81¼	44
1930	.60–.70	45–54	.60–.75	44–50	.75–.81¼	44
Sheet-metal workers:						
1929	1.07½	44	.90	44	1.12½	44
1930	1.15	44	.90	44	1.12½	44
Street railways						
Conductors and motormen:						
1929 [1]	[2].60	48	[3].60	48	[4].63	48
1930 [1]	[2].60	48	[3].60	48	[4].63	48
Linemen:						
1929	.72–.78	44	.92½	44	.97	44
1930	.72–.78	44	.92½	44	.97	44
Shedmen:						
1929	.54–.56	44	.51½–.59	44	.52	44–48
1930	.54–.56	44	.51½–.59	44	.52	44–48
Electricians:						
1929	.55–.65	44	.61	44	.70	44
1930	.55–.65	44	.61	44	.70	44
Trackmen and laborers:						
1929	.45–.59	48	.35–.42	44	.50–.59	44
1930	.45–.59	48	.35–.42	44	.50–.59	44
Printing trades						
Compositors, machine and hand, news:	*Per week*		*Per week*		*Per week*	
1929	46.50	46½	46.50	46	48.00	45
1930	47.50	46½	47.00	46	48.00	45
Compositors, machine and hand, job:						
1929	35.00–42.00	44–48	39.60	44–48	45.00	44–48
1930	35.00–42.00	44–48	39.60	44–48	45.00	44–48
Pressmen, news:						
1929	45.50	48	45.00	48	48.00	48
1930	46.50	48	45.00	48	48.00	48
Pressmen, job:						
1929	36.00–42.00	44–48	39.60	44–48	45.00	44–48
1930	36.00–42.00	44–48	39.60	44–48	45.00	44–48
Bookbinders:						
1929	36.00–40.00	44–48	35.20–42.00	44–48	45.00	44–48
1930	36.00–40.00	44–48	35.20–42.00	44–48	45.00	44–48
Bindery girls:						
1929	16.80–18.00	48	12.00–18.00	44–48	23.00	44–48
1930	16.80–18.00	48	12.00–18.00	44–48	23.00	44–48

[1] Maximum rates.
[2] 1-man car operators, 5 cents extra per hour.
[3] 1-man car operators, 5½ cents extra per hour.
[4] 1-manc ar operators, 6 cents extra per hour.

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1929 AND 1930—Continued

Occupation	Quebec		Montreal		Ottawa	
	Wage rate	Hours per week	Wage rate	Hours per week	Wage rate	Hours per week
Building trades						
Bricklayers:	*Per hour*		*Per hour*		*Per hour*	
1929	$1.00	54	$1.20	24-50	$1.25	44
1930	1.00	44-54	1.20	44-50	1.25	44
Carpenters:						
1929	.50 -.60	54-60	.80-.85	44-55	.90	44
1930	.50 -.60	44-54	.85	44-55	.90	44
Electrical workers:						
1929	.50 -.65	54	.70-.80	44-46½	.80	44
1930	.50 -.65	44-54	.75-.90	44-46½	.80	44
Painters:						
1929	.50 -.60	54	65-.80	44-49½	.70	44
1930	.50 -.60	44-54	.65-.85	44-49½	.70	44
Plasterers:						
1929	1.00	54	1.00-1.15	44-49½	1.00	44
1930	1.00	44-54	1.05	44-49½	1.00	44
Plumbers:						
1929	.50 -.60	54-60	.85	44	1.00	44
1930	.50 -.60	44-60	.90	44	1.05	44
Stonecutters:						
1929	.60 -.80	48-60	.75-.90	44	1.05	44
1930	.60 -.80	44-60	.75-1.00	44	1.05	44
Laborers:						
1929	.30 -.45	54-60	.35-.40	55-60	.45-.50	44-54
1930	.30 -.45	44-60	.35-.45	44-60	.45-.50	44-54
Metal trades						
Blacksmiths:						
1929	.50 -.60	50-54	.60-.70	44-58	.55-.65	50
1930	.50 -.60	50-54	.60-.70	44-58	.55-.65	50
Boilermakers:						
1929	.40 -.65	54	.50-.85	47-58	.60-.75	44-50
1930	.40 -.65	54	.50-.85	47-58	.60-.75	44-50
Machinists:						
1929	.40 -.60	50-54	.50-.80	44-58	.60-.70	44-50
1930	.45 -.65	50-54	.50-.80	44-58	.60-.70	44-50
Iron molders:						
1929	.37½-.57	60	.60-.82½	45-55	.55-.68	44-50
1930	.37½-.57	60	.65-.82½	44-49	.55-.68	44-50
Sheet-metal workers:						
1929	.50 -.65	54	.75	50	.95	44
1930	.50 -.65	44-54	.80	44	1.00	44
Street railways						
Conductors and motormen:						
1929 [1]	[2].48	60	.51	70	[2].50	50
1930 [1]	[2].50	60	.55	70	[2].50	50
Line men:						
1929	.45 -.50	66½	.51	60	.50	54
1930	.45 -.50	66½	.55	60	.50	54
Shedmen:						
1929	.34 -.60	49-70	.31-.53	63-70	.39-.51	54
1930	.34 -.60	47-70	.34-.57	63-70	.39-.51	54
Electricians:						
1929	.48 -.54	49½	.51-.57	50	.55	54
1930	.45 -.54	47	.55-.61	50	.55	54
Trackmen and laborers:						
1929	.35	60	.38	60	.44-.48	54
1930	.35	60	.39	54	.38-.48	54
Printing trades						
Compositors, machine and hand, news:	*Per week*		*Per week*		*Per week*	
1929	$31.00	48	$38.00-44.00	48	$44.00	46½
1930	31.00	48	38.00-44.00	48	44.00	46½
Compositors, machine, and hand, job:						
1929	31.00	48	36.00-42.00	44-48	35.00-40.00	44-48
1930	31.00	48	36.00-42.00	44-48	35.00-40.00	44-48

[1] Maximum rates.

[2] 1-man car operators, 5 cents extra per hour.

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1929 AND 1930—Continued

Occupation	Quebec		Montreal		Ottawa	
	Wage rate	Hours per week	Wage rate	Hours per week	Wage rate	Hours per week
Printing trades—Contd.						
Pressmen, news:	*Per hour*		*Per hour*		*Per hour*	
1929	$32.00	48	$38.00	48	$43.00	48
1930	32.00	48	40.00	48	43.00	48
Pressmen, job:						
1929	28.00–32.00	48	36.00	48	35.00–40.00	44–48
1930	28.00–32.00	48	36.00	48	35.00–40.00	44–48
Bookbinders:						
1929	27.00–35.00	48	33.75	48	34.00	48
1930	27.00–35.00	48	33.75	48	34.00	48
Bindery girls:						
1929	9.00–15.00	48	15.00	48	13.50	48
1930	9.00–15.00	48	15.00	48	13.50	48

Rates of wages paid to certain groups of railroad employees are shown in Table 3:

TABLE 3.—RATES OF WAGES OF CANADIAN STEAM-RAILROAD EMPLOYEES, 1927-28 AND 1929-30

Occupation	Train service (cents per mile)		Occupation	Engine service (cents per mile)	
	1927–28	1929–30		1927–28	1929–30
Conductors:			Locomotive engineers:		
Passenger	4.47	4.47–4.72	Passenger	6.16–7.16	6.16–7.16
Freight, through	6.16	6.16–6.25	Freight	6.84–8.76	6.84–8.76
Freight, way	6.68	6.68–7.11	Locomotive firemen:		
Brakemen:			Passenger	4.56–5.76	4.56–5.76
Passenger	3.13	3.13–3.18	Freight	5.00–6.51	5.00–6.51
Freight, through	4.84	4.84–4.91			
Freight, way	5.24	5.24–5.31			

In Table 4 daily wages in coal mining in Canada in September, 1928–29, and in September, 1930, are presented. The 8-hour day prevails except for surface laborers, machinists, carpenters, and blacksmiths in Nova Scotia, whose day is 8½ hours.

TABLE 4.—WAGES IN COAL MINING IN CANADA, SEPTEMBER, 1928-29, AND SEPTEMBER, 1930

Locality and occupation	Daily wages [1]	
	September, 1928–29	September, 1930
Nova Scotia [2]		
Contract miners	[3] $6.65	[4] $6.69
Hand miners	[5] 4.15	[5] 4.15
Hoisting engineers	4.15	4.25
Drivers	3.60	3.60
Bratticemen	3.65	4.73
Pumpmen	3.90	3.93
Laborers, underground	3.35	3.45
Laborers, surface	3.25	3.40
Machinists	4.15	4.15
Carpenters	3.85	3.88
Blacksmiths	4.00	4.05
Alberta [6]		
Contract miners	[4] 7.85	[4] 7.78
Machine miners	[5] 5.85–7.00	[5] 5.85–7.00
Hand miners	[5] 5.20–5.57	[5] 5.20–5.57
Hoisting engineers	5.65–6.20	5.65–6.20
Drivers	4.85–5.25	4.85–5.25
Bratticemen	5.20–5.57	5.20–5.57
Pumpmen	4.40–4.95	4.40–4.95
Alberta—Continued		
Laborers, underground	$4.40–4.67	$4.40–4.67
Laborers, surface	4.15–4.41	4.15–4.41
Machinists	4.85–5.77	4.85–5.77
Carpenters	5.45–5.77	5.45–5.77
Blacksmiths	5.45–5.77	5.45–5.77
Vancouver Island [7]		
Contract miners	[4] 6.75	[4] 6.71
Machine miners	[5] 4.81	[5] 4.81
Hand miners	[5] 4.52	[5] 4.52
Hoisting engineers	5.39	5.39
Drivers	4.13	4.13
Bratticemen	4.35	4.35
Pumpmen	3.96	3.96
Laborers, underground	3.97	3.97
Laborers, surface	3.76	3.76
Machinists	5.40	5.40
Carpenters	4.83	4.83
Blacksmiths	5.11	5.11

[1] Some engineers, pumpmen, firemen, etc., work 7 days per week.
[2] In Nova Scotia in most of the mines from February 1, 1928, to January 31, 1930, a bonus to be paid quarterly on profits was agreed upon.
[3] Average earnings per day on contract, per ton, etc., certain collieries only; approximate.
[4] Average earnings per day on contract, per ton, etc.
[5] Minimum rate per day when not working on contract, per ton, yard, etc.
[6] Including also 3 mines in Southeastern British Columbia.
[7] No figures for Chinese employees included.

Wages in Marseille, France

A REPORT from John S. Calvert, American consul at Marseille, dated February 11, 1931, gives the wages in effect in that city in a number of occupations in the latter part of 1930.

The following statement shows the average daily wages in different occupations in Marseille in 1930, conversions into United States currency being made on the basis of the exchange value of the franc for 1930—3.92 cents.

	Average daily wages		Average daily wage
Bricklayers, skilled	$1.53	Carpenters	$1.49–1.96
Bricklayers, unskilled	1.37	Ditch diggers	1.29
Stonemasons	1.57	House painters	1.41
Coppersmiths	1.41	Truckmen	1.57
Blacksmiths	1.37–1.57	Quarry workers	1.37
Butchers	1.96	Laborers	1.18

Wages in Various Industries and Localities in Italy

Wages on Public Works

THE Bollettino del Lavoro e della Previdenza Sociale, published by the Italian Ministry of Corporations, Rome, in its issue of September–October, 1930, gives (p.311) the following average rates per hour, paid on public works in Italy as of August 31, 1930.

TABLE 1.—RATES OF WAGES PER HOUR PAID ON PUBLIC WORKS IN VARIOUS CITIES OF ITALY, AS OF AUGUST 31, 1930

[Conversions into United States currency on basis of lira=5.23 cents]

City	Bricklayers	Carpenters	Blacksmiths	Joiners	Masons	Cement workers	Assistants	Laborers	
								First class	Second class
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Turin	19.9	20.9	20.9	18.8	22.0	19.9	15.7	14.6	13.1
Genoa	15.8	16.7	15.7	16.7	17.8	16.7	14.6	13.1	12.3
Milan	18.3	18.3	18.3	18.3	20.9	20.9	15.7	14.6	11.5
Venice	15.7 to 16.7	15.7 to 16.7	15.7	14.6	19.4	15.7 to 16.7	13.6	13.1	12.3
Trento	14.9	14.9	15.2	13.3	15.2	14.9	11.0	10.5	9.4
Trieste	19.4	19.4	19.9	19.9	20.9	14.6	9.4	14.6	13.9
Bologna	16.2	17.5	16.2	16.2	16.2	16.7	15.2	13.6	9.9
Florence	15.2	16.5	13.6	16.5	15.4	15.7	13.1	10.7	9.4
Ancona	17.3	17.8	17.8	16.7	15.7	16.2	10.5	11.5	10.5
Perugia	12.6	13.3	14.4	19.6	15.7	13.3	10.5	8.9	----
Rome	15.7	17.5	17.5	17.5	22.8	17.0	15.2	14.4	----
Aquila	13.6	13.6	14.4	13.6	15.2	13.6	11.8	8.6	7.1
Naples	15.2	15.2	15.2	15.2	20.5	15.2	10.5	10.5	9.7
Bari	14.1	15.4	19.4	19.4	15.4	19.4	11.5	10.2	7.6
Potenza	17.0	16.2	17.0	17.0	17.5	17.0	10.5	10.5	8.4
Catanzaro	15.7	18.3	18.3	15.7	18.3	15.7	9.7	10.2	7.8
Palermo	11.6	11.6	11.6	11.6	11.6	12.1	8.1	9.3	8.4
Cagliari	13.1	13.1	13.1	13.1	19.6	13.1	9.7	8.6	7.3

City	Engineers	Plumbers, glaziers, and electricians	Wagon drivers	Chauffeurs	Per cent of regular rate paid extra for—			
					Overtime		Work on holidays	Night work
					First 2 hours	Thereafter		
	Cents	Cents	Cents	Cents				
Turin	22.0	20.9	15.7	25.1	20	30	50	100
Genoa	16.7	15.7	14.1	15.7	15	30	35	50
Milan	22.0	22.0	15.7	25.1	30	30	100	100
Venice	15.7	17.0 to 19.6	----	----	20	20	50	100
Trento	15.2	15.2	11.2	16.5	----	----	----	----
Trieste	20.9	19.9	13.9	19.9	25	30	----	----
Bologna	18.0	18.0	----	17.5	20	40	50	75
Florence	18.3	16.0	13.1	17.5	25	25	----	----
Ancona	19.4	16.7	15.7	18.3	30	30	----	50
Perugia	18.3	16.2	----	----	20	20	25	50
Rome	24.8	24.8	----	----	20	20	----	----
Aquila	----	14.4	----	----	20	20	40	40
Naples	15.2	14.6	13.1	18.3	----	----	----	----
Bori	20.7	15.7	10.5	19.6	15	15	25	30
Potenza	19.9	----	10.5	13.1	10	20	20	35
Catanzaro	26.2	20.9	10.5	18.3	20	20	20	----
Palermo	14.4	11.8	11.0	----	15	15	40	----
Cagliari	13.6	13.6	10.5	14.4	10	10	25	30

Wage Rates of Agricultural Workers

TABLE 2 shows the average daily wage rates of farm laborers in Italy in August, 1930, taken from the same official source as above:

TABLE 2.—RATES OF WAGES PER DAY FOR AGRICULTURAL LABOR IN VARIOUS SECTIONS OF ITALY, AUGUST, 1930

[Conversions into United States currency on basis of lira=5.23 cents]

Type of district	Men	Women	Boys
	Cents	*Cents*	*Cents*
Mountainous districts	65–90	37–61	34–55
Hilly districts	67–88	35–53	34–53
Level districts	72–95	36–58	39–67

Miscellaneous Occupations

SPECIAL Circular No. 32, issued by the division of regional information of the Bureau of Foreign and Domestic Commerce, United States Department of Commerce, under date of August 15, 1930, and prepared by the office of the commercial attaché of the American Embassy at Rome with the assistance of American consuls in Italy, states that the wages of maids, cooks, etc., range from 150 to 400 lire ($7.85 to $20.92) per month. Trained nurses for children receive as much as 600 lire ($31.38). Male servants are paid from 300 to 500 lire ($15.69 to $26.15) and chauffeurs up to 1,000 lire ($52.30) per month. Capable stenographic and clerical employees speaking and writing English readily obtain from 1,200 to 1,500 lire ($62.76 to $78.45) per month; clerks are paid slightly less. Such employees working only in Italian get from 600 to 900 lire ($31.38 to $47.07). Double-salary is paid at Christmas and usually also in the summer.

Wage Rates in Shipyards in the Province of Trieste

THE following data on wages paid in the shipyards of the Province of Trieste are taken from a report from Howard A. Bowman, American consul at Trieste, containing the provisions of an agreement entered into October 17, 1930.

Table 3 shows the minimum hourly rates paid in the various shipyards of the Province:

TABLE 3.—MINIMUM HOURLY RATES OF WAGES IN THE SHIPYARDS OF TRIESTE PROVINCE, ITALY, OCTOBER, 1930

[Conversions into United States currency on basis of lira=5.23 cents]

Class of workers	Minimum hourly rates paid at—	
	Trieste and San Roco shipyards	Nonfalcone shipyards
	Cents	*Cents*
Specialized workers	17.0	16.7
Qualified workers	12.8	12.6
Specialized laborers	11.5	11.2
Ordinary laborers	11.0	10.5
Apprentices:		
Under 16 years	3.1	3.1
16 to 18 years	6.3	6.3
18 to 20 years	8.4	8.4
Female employees, under 16 years:		
Laborers	4.2	4.2
Machine operators	3.4	3.1
Female employees, over 16 years:		
Laborers	6.5	6.3
Machine operators	5.2	5.2

The overtime rate for the first two hours is 20 per cent over the regular rate, for the next three hours 40 per cent, and thereafter 80 per cent. The rate for holidays is 45 per cent over the regular rate for the first eight hours and 75 per cent thereafter. The rate for night work is 20 per cent extra.

Wages in the Cement Industry

THE wage scale in an agreement made November 28, 1930, between the employees engaged in the cement industry in Civitavecchia, Santa Marinella, and Segni and their employers is given in Il Lavoro Fascista (Rome), December 18, 1930. The more important scales are given in Table 4:

TABLE 4.—HOURLY WAGES IN THE CEMENT INDUSTRY

[Conversions into U. S. currency on basis of lira=5.23 cents]

Occupation	Civitavecchia and Santa Marinella	Segni
Quarry		
Diggers	$0.115	$0.107
Laborers, first class	.105	----------
Laborers, second class	.097	----------
Boys, under 18 years	.071	.071
Factory		
Packers and shippers	.120	----------
Laborers not in rotation	.105	.078
Laborers in rotation	.120	.084
Women	.063	.042
Foundry workers	.144	.118
Workshop		
Specialized workers	.146	.120
Qualified workers	.120	.097
Apprentices, 16 to 18 years	.073	.063
Laborers	.105	.078
Boys, under 16 years	----------	.026

Occupational Rates in Rome, October, 1930

TABLE 5 shows the average rates in effect in Rome, as of July 31, 1930, as given in Capitolium (Rome), issue of October, 1930 (p. 270):

TABLE 5.—RATES OF PAY PER HOUR IN VARIOUS OCCUPATIONS IN ROME, AS OF JULY 31, 1930

[Conversions into United States currency on basis of lira=5.23 cents]

Trade and occupation	Rate per hour
Building trades	*Cts.*
Bricklayers	17.6
Bricklayers' helpers	15.3
Carpenters and joiners	18.0
Carpenters' helpers	16.5
Blacksmiths and masons	18.0
Mosaic workers	17.9
Plasterers	22.2
Cement workers	19.1
Whitewashers	16.2
Building laborers	14.4
Engineering trades	
Engineers:	
Fitters	18.3
Turners	17.3
Molders	16.2
Laborers	12.0
Plumbers, first class	26.2
Plumbers, second class	20.4
Plumbers, third class	17.0
Plumbers' helpers	11.8
Electricians, installers	22.1
Electricians, first class	17.2
Electricians, second class	14.1
Electricians' helpers	8.5
Woodworking trades	
Furniture makers:	
Carvers, first class	22.0
Carvers, second class	19.4
Carvers, third class	16.7
Woodworking trades—Continued	
Furniture makers—Continued.	
Tracers, first class	19.4
Tracers, second class	18.0
Tracers, third class	15.4
Preparers	20.9
Joiners, first class	19.4
Joiners, second class	18.0
Joiners, third class	16.7
Joiners, machinists	19.4
Joiners, preparers	20.9
Joiners, laborers	11.2
Upholsterers	24.1
Printing trades	
Hand compositors, first class	20.4
Hand compositors, second class	18.5
Machine hands	23.2
Monotype operators, first class	20.4
Monotype operators, second class	16.3
Pressmen, first class	20.4
Pressmen, second class	18.5
Typists, first class	12.8
Typists, second class	9.3
Folders (women), first class	9.5
Folders (women), second class	8.3
Bookbinders (men), first class	18.5
Bookbinders (men), second class	16.0
Bookbinders (women), first class	9.5
Bookbinders (women), second class	8.3
Extra hands, first class	15.5
Extra hands, second class	13.3

An agreement made between the bakers and their employers in Rome, effective February 16, 1931, provides the following hourly wage rates: [1]

	Cents
Small loaves:	
Oven men	16.7
Dough mixers	16.7
Specialty helpers	13.1
Simple helpers	11.0
Larger loaves:	
Oven men	18.3
Dough mixers	18.3
Specialty helpers	14.6
Simple helpers	12.3

Machinists and Metal Workers

In Il Lavoro Fascista, December 31, 1930, is given an agreement recently made between the machinists and metal workers of the Province of Rome and their employers. Two scales are given, one for Rome and the other for the Province outside the city of Rome. Pieceworkers are given a rate so that fast workers may receive an amount 25 per cent in excess of the time rate in Rome and 20 per cent outside. For overtime 20 per cent extra is paid for the first two hours, 40 per cent for the next three hours, and 60 per cent thereafter. For work on holidays, 40 per cent extra is paid for the first four hours, then 50 per cent extra. For night work, 15 per cent extra is paid.

[1] Data are from Il Lavoro Fascista, Feb. 14, 1931.

TABLE 6.—HOURLY WAGES OF MACHINISTS AND METAL WORKERS

[Conversions on basis of lire=5.23 cents]

Occupation group	In Rome	Outside of city
Specialized workers	$0.178	$0.157
Qualified workers	.136	.126
Specialized laborers	.120	.110
Common laborers	.115	.105
Apprentices, 18 to 20 years	.076	.068
Apprentices, 16 to 18 years	.063	.047
Women, Group A	.063	.052
Women, Group B	.052	.047
Boys	.031	.026

Wages in Venice, August, 1930

TABLE 7 shows the wages in various industries and occupations in the city of Venice, as given in Rivista di Venezia, August, 1930 (p. 14):

TABLE 7.—RATES OF WAGES IN VARIOUS OCCUPATIONS IN VENICE, AUGUST, 1930

[Conversions into United States currency on basis of lira=5.23 cents]

Trade and occupation	Wage rate	Trade and occupation	Wage rate
Printing trades	*Per week*	*Building trades*—Continued	*Per hour*
Hand compositors, first class	$10.72	Bricklayers' apprentices	$0.136
Linotype operators	11.82	Bricklayers' helpers under 18 years	.118
Pressmen, first class	10.72	Bricklayers' helpers over 18 years	.123
Pressmen, second class	8.84	Masons	.194
Lithographers, first class	11.77	Joiners, skilled workers	.157 to .170
Lithographers, second class	10.93		
Lithographers, third class	10.25		
Bookbinders, first class	10.72	Joiners, qualified, first class	.144
Bookbinders, second class	9.15	Joiners, qualified, second class	.105
Lithographic machine operators, first class	4.08	Joiners, apprentices, 17 to 19 years	.078
Lithographic machine operators, second class	3.56		*Per day*
Lithographic machine operators, third class	3.14	Metal workers	1.18
		Metal workers' helpers, 18 to 21 years	.89
Building trades	*Per hour*	Metal workers' apprentices, under 18 years	.37
Painters, first class	.194	Electricians, first class	1.57
Painters, second class	.170	Electricians, second class	1.36
Bricklayers	.157 to .167	Electricians, third class	1.15
		Electricians' helpers	.52

The overtime rate in the printing industry is 20 per cent over the regular rate for the first two hours, 30 per cent thereafter; double time is paid for night work and for work on holidays. The overtime rate for bricklayers is 20 per cent above the regular rate. Masons and joiners receive 20 per cent extra for overtime and 50 per cent extra for work on holidays. Painters are paid 10 per cent extra for overtime, 15 per cent extra for holidays, and 60 per cent extra for night work. Electricians receive 30 per cent extra for the first two hours of overtime, 50 per cent extra thereafter until midnight, and 80 per cent extra thereafter.

TREND OF EMPLOYMENT

Summary for February, 1931

EMPLOYMENT increased less than one-tenth of 1 per cent in February, 1931, as compared with January, 1931, and pay-roll totals increased 4.7 per cent, according to reports made to the Bureau of Labor Statistics.

The industrial groups surveyed, the number of establishments reporting in each group, the number of employees covered, and the total pay rolls for one week, for both January and February, together with the per cent of change in February, are shown in the following summary:

SUMMARY OF EMPLOYMENT AND PAY-ROLL TOTALS, JANUARY AND FEBRUARY, 1931

Industrial group	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
1. Manufacturing	**14,283**	**2,877,351**	**2,899,867**	[1] +1.4	**$64,691,718**	**$69,695,860**	[1] +7.5
2. Coal mining	**1,459**	**342,662**	**337,456**	−1.5	**7,870,788**	**8,018,296**	+1.9
Anthracite	153	122,417	122,879	+0.4	3,477,591	3,923,361	+12.8
Bituminous	1,306	220,245	214,577	−2.6	4,393,197	4,094,935	−6.8
3. Metalliferous mining	**304**	**43,596**	**41,658**	−4.4	**1,066,104**	**1,059,126**	−0.7
4. Quarrying and nonmetallic mining	**718**	**26,293**	**27,181**	+3.4	**547,991**	**591,740**	+8.0
5. Crude petroleum producing	**495**	**25,721**	**25,149**	−2.2	**902,172**	**883,582**	−2.1
6. Public utilities	**12,170**	**708,508**	**700,207**	−1.2	**21,315,997**	**21,333,540**	+0.1
Telephone and telegraph	7,965	320,664	316,335	−1.4	9,230,229	9,083,707	−1.6
Power, light, and water	3,584	242,806	239,316	−1.4	7,534,010	7,617,943	+1.1
Electric railroad operation and maintenance, exclusive of car shops	621	145,038	144,556	−0.3	4,551,758	4,631,890	+1.8
7. Trade	**9,553**	**333,200**	**323,594**	−2.9	**8,429,653**	**8,255,815**	−2.1
Wholesale	1,940	61,851	60,999	−1.4	1,904,359	1,923,752	+1.0
Retail	7,613	271,349	262,595	−3.2	6,525,294	6,332,063	−3.0
8. Hotels	**2,161**	**154,165**	**157,116**	+1.9	**[2] 2,539,234**	**[2] 2,616,234**	+3.0
9. Canning and preserving	**792**	**30,885**	**30,473**	−1.3	**517,003**	**545,641**	+5.5
10. Laundries	**321**	**28,040**	**27,884**	−0.6	**529,337**	**523,260**	−1.1
11. Dyeing and cleaning	**127**	**4,635**	**4,555**	−1.7	**103,614**	**100,152**	−3.3
Total	**42,383**	**4,575,656**	**4,575,140**	+([3])	**108,513,611**	**113,623,246**	+4.7

Recapitulation by Geographic Divisions

Geographic division							
New England [4]	3,087	415,126	420,925	+1.4	$9,676,044	$9,960,983	+2.9
Middle Atlantic [5]	7,298	1,404,143	1,405,045	+0.1	36,094,375	37,320,503	+3.4
East North Central [6]	9,856	1,257,342	1,267,065	+0.8	29,552,356	32,940,683	+11.5
West North Central [7]	4,688	300,290	296,458	−1.3	7,220,525	7,309,994	+1.2
South Atlantic [8]	4,604	464,797	468,667	+0.8	8,946,381	9,146,665	+2.2
East South Central [9]	2,362	191,956	191,816	−0.1	3,356,856	3,406,769	+1.5
West South Central [10]	3,274	184,434	182,017	−1.3	4,271,203	4,276,489	+0.1
Mountain [11]	1,641	99,234	87,905	−11.4	2,573,675	2,296,373	−10.8
Pacific [12]	5,573	257,734	255,242	−1.0	6,822,196	6,964,787	+2.1
All divisions	**42,383**	**4,575,656**	**4,575,140**	+([3])	**108,513,611**	**113,623,246**	**+4.7**

[1] Weighted per cent of change for the combined 54 manufacturing industries, repeated from Table 2, p. 207, the remaining per cents of change, including total, are unweighted.
[2] Cash payments only; see text, p. 223.
[3] Less than one-tenth of 1 per cent.
[4] Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.
[5] New Jersey, New York, Pennsylvania.
[6] Illinois, Indiana, Michigan, Ohio, Wisconsin.
[7] Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.
[8] Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia.
[9] Alabama, Kentucky, Mississippi, Tennessee.
[10] Arkansas, Louisiana, Oklahoma, Texas.
[11] Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming.
[12] California, Oregon, Washington.

Employment was practically unchanged in February as compared with January, the actual increase, as shown by the combined totals, having been 84 employees, or less than one-tenth of 1 per cent. The increase of 4.7 per cent in pay-roll totals, however, represents an addition of $5,109,635 to employees' earnings in February.

The per cents of change shown for the total figures represent only the changes in the establishments reporting, as the figures of the several groups are not weighted according to the relative importance of each industry.

Increased employment in February was shown in 4 of the 15 industrial groups: Manufacturing, 1.4 per cent; anthracite mining, 0.4 per cent; quarrying and nonmetallic mining, 3.4 per cent; hotels, 1.9 per cent.

Decreased employment was shown in February in each of the remaining 11 groups: Bituminous coal mining, 2.6 per cent; metalliferous mining, 4.4 per cent; crude petroleum producing, 2.2 per cent; telephone and telegraph, 1.4 per cent; power-light-water, 1.4 per cent; electric railroads, 0.3 per cent; wholesale trade, 1.4 per cent; retail trade, 3.2 per cent; canning and preserving, 1.3 per cent; laundries, 0.6 per cent; dyeing and cleaning, 1.7 per cent each.

Pay-roll totals were greater in February than in January in manufacturing, anthracite mining, quarrying and nonmetallic mining, power-light-water, electric railroads, wholesale trade, hotels, and canning and preserving.

There were increases in employment in February in 4 of the 9 geographic divisions, the New England division leading with an increase of 1.4 per cent, followed by the East North Central, South Atlantic, and Middle Atlantic divisions with less than 1 per cent each.

The notable decrease in employment in February was 11.4 per cent in the Mountain division and was due to the ending of the season in the beet-sugar industry and to the decreases in the mining industries, which also caused the Mountain division to be the only division showing decreased pay-roll totals in February.

PER CAPITA WEEKLY EARNINGS IN FEBRUARY, 1931, AND COMPARISON WITH JANUARY, 1931, AND FEBRUARY, 1930

Industrial group	Per capita weekly earnings in February, 1931	Per cent of change February, 1931, compared with—	
		January, 1931	February, 1930
1. Manufacturing	$24.01	+6.1	−10.0
2. Coal mining:			
Anthracite	31.93	+12.3	−2.6
Bituminous	19.08	−4.5	−25.2
3. Metalliferous mining	25.42	+3.9	−16.6
4. Quarrying and nonmetallic mining	21.77	+4.3	−11.3
5. Crude petroleum producing	35.13	[1]	−2.0
6. Public utilities:			
Telephone and telegraph	28.72	−0.1	+4.5
Power, light, and water	31.83	+2.5	+0.3
Electric railroads	32.04	+2.1	[1]
7. Trade:			
Wholesale	31.54	+2.5	+0.4
Retail	24.11	+0.2	−2.2
8. Hotels (cash payments only) [2]	16.65	+1.0	−4.5
9. Canning and preserving	17.91	+6.7	−10.7
10. Laundries	18.77	−0.6	[3]
11. Dyeing and cleaning	21.99	−1.6	[3]
Total	24.83	+4.7	[3]

[1] No change.
[2] The additional value of board, room, and tips can not be computed.
[3] Data not available.

Per capita earnings for February, 1931, given in the preceding table, must not be confused with full-time weekly rates of wages; they are actual per capita weekly earnings computed by dividing the total number of employees reported into the total amount of pay roll in the week reported, and the "number of employees" includes all persons who worked any part of the period reported—that is, part-time workers as well as full-time workers.

Comparisons are made with per capita earnings in January, 1931, and with February, 1930, where data are available.

For convenient reference the latest data available relating to all employees, excluding executives and officials, on Class I railroads, drawn from Interstate Commerce Commission reports, are shown in the following statement. These reports are for the months of December, 1930, and January, 1931, instead of for February and March, 1931, consequently the figures can not be combined with those presented in the foregoing table.

EMPLOYMENT AND PAY-ROLL TOTALS, CLASS I RAILROADS

Industry	Employment		Per cent of change	Amount of pay roll in entire month		Per cent of change
	Dec. 15, 1930	Jan. 15, 1931		December, 1930	January, 1931	
Class I railroads	1,340,470	1,317,817	−1.6	$185,396,509	$182,908,075	−1.3

The total number of employees included in this summary is approximately 5,900,000, whose combined earnings in one week amounted to $155,000,000.

1. Employment in Selected Manufacturing Industries in February, 1931

Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, January and February, 1931

EMPLOYMENT in manufacturing industries in February, 1931, increased 1.4 per cent as compared with January and pay-roll totals increased 7.5 per cent. Those changes are based upon returns made by 13,377 identical establishments in 54 of the chief manufacturing industries in the United States, having in February, 2,772,219 employees whose combined earnings in one week were $66,567,283.

Regularly manufacturing employment and pay rolls show a marked upward trend in February, following the customary decreases in January due to inventory taking and repairs, and the increases in February this year compare favorably with those in the years prior to 1930; in February, 1930, the increase in employment was only 0.1 per cent and the increase in pay rolls only 3.5 per cent.

The bureau's weighted index of employment for February, 1931, is 74.1, as compared with 73.1 for January, 1931, 75.1 for December, 1930, and 90.3 for February, 1930; the index of pay-roll totals for February, 1931, is 67.0, as compared with 62.3 for January, 1931, 67.4 for December, 1930, and 90.7 for February, 1930. The monthly average for 1926 equals 100.

Eight of the 12 groups of manufacturing industries showed employment gains in February, and 10 groups showed pay-roll gains. The textile group gained 4.1 per cent in employment, leather 3.5 per cent, stone-clay-glass 2.3 per cent, and tobacco 10.2 per cent. Pay-roll gains included 23.5 per cent in the vehicles group, 13.5 per cent in leather, 11.6 per cent in textiles, 10.5 per cent in stone-clay-glass, and over 6 per cent each in the iron and steel and the other metals groups. Decreases were shown in both items in the food and the paper groups, and in employment alone in the chemicals group and the group of miscellaneous industries.

Increased employment in February was shown in 31 of the 54 separate industries and increased pay rolls in 43 industries. The outstanding gains were 13.8 per cent in stoves, 11.9 per cent in cigars, 8.8 per cent in woolen and worsted goods, over 7 per cent each in millinery and carpets; and about 6 per cent each in both men's and women's clothing, shirts, stamped ware, cast-iron pipe, and hosiery, and 4.5 per cent in boots and shoes. Automobiles gained 2.4 per cent; the iron and steel industry, 0.4 per cent; and cotton goods, 0.2 per cent. In nearly every instance pay-roll increases were much greater than employment increases. The notable pay-roll increases were 52.5 per cent in automobiles, 24.9 per cent in carpets, 22.3 per cent each in stoves and stamped ware, and between 11 and 18 per cent each in 8 of the textile industries and in cement and glass.

There were no decreases in employment in February of especial significance.

Four of the 10 industries surveyed but not included in the bureau's indexes reported increased employment in February as compared with January, these being: Rayon, 0.5 per cent; jewelry, 2.9 per cent; paint and varnish, 1.2 per cent; and beverages, 1.2 per cent. Decreased employment in February was shown as follows: Radio, 5.4 per cent; aircraft, 4.8 per cent; rubber goods, 0.2 per cent; beet sugar, 76.1 per cent; cash registers, etc., 2.5 per cent; and typewriters, 1.6 per cent.

The beet-sugar industry reaches its minimum employment point in February or March; typewriters and supplies are presented for the first time in this comparison for January and February.

Six of the 9 geographic divisions reported increased employment in February, the New England division leading with a gain of 2.3 per cent, followed by the East North Central with a gain of 1.6 per cent and the South Atlantic with a gain of 1.3 per cent. The West North Central and the Mountain divisions both show decreased employment owing to the beet-sugar industry's ended season; the Pacific division reported a drop of 1 per cent.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931, BY INDUSTRIES

Industry	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Food and kindred products	**1,996**	**227,535**	**225,127**	(1)	**$5,823,695**	**$5,700,956**	(1)
Slaughtering and meat packing	208	89,348	86,911	−2.7	2,393,863	2,267,071	−5.3
Confectionery	329	35,903	36,249	+1.0	657,369	641,791	−2.4
Ice cream	336	11,672	11,730	+0.5	381,050	392,934	+3.1
Flour	401	16,462	16,222	−1.5	415,150	415,863	+0.2
Baking	706	64,625	64,659	+0.1	1,707,599	1,704,596	−0.2
Sugar refining, cane	16	9,525	9,356	−1.8	268,664	278,701	+3.7
Textiles and their products	**2,344**	**508,278**	**528,603**	(1)	**8,823,024**	**9,788,727**	(1)
Cotton goods	452	160,798	161,116	+0.2	2,291,189	2,310,380	+0.8
Hosiery and knit goods	354	79,807	84,361	+5.7	1,269,875	1,419,595	+11.8
Silk goods	262	56,278	58,081	+3.2	1,006,367	1,117,449	+11.0
Woolen and worsted goods	174	47,155	51,328	+8.8	951,707	1,103,568	+16.0
Carpets and rugs	28	15,719	16,835	+7.1	309,470	386,538	+24.9
Dyeing and finishing textiles	117	36,020	37,023	+2.8	849,600	952,180	+12.1
Clothing, men's	333	54,682	58,152	+6.3	999,240	1,166,169	+16.7
Shirts and collars	113	15,951	16,969	+6.4	210,127	234,890	+11.8
Clothing, women's	395	28,942	30,866	+6.6	678,301	801,756	+18.2
Millinery and lace goods	116	12,926	13,872	+7.3	257,148	296,202	+15.2
Iron and steel and their products	**1,951**	**544,129**	**546,616**	(1)	**12,810,214**	**13,633,965**	(1)
Iron and steel	199	225,517	226,458	+0.4	5,400,921	5,969,066	+10.5
Cast-iron pipe	42	8,621	9,105	+5.6	175,161	189,102	+8.0
Structural-iron work	176	25,212	24,236	−3.9	642,074	615,639	−4.1
Foundry and machine-shop products	1,077	195,601	196,663	+0.5	4,603,965	4,786,166	+4.0
Hardware	74	24,547	24,382	−0.7	481,216	487,477	+1.3
Machine tools	146	23,373	22,945	−1.8	548,935	558,062	+1.7
Steam fittings and steam and hot-water heating apparatus	106	26,814	26,383	−1.6	643,288	643,700	+0.1
Stoves	131	14,444	16,444	+13.8	314,654	384,753	+22.3
Lumber and its products	**1,446**	**164,437**	**165,320**	(1)	**2,847,183**	**2,955,924**	(1)
Lumber, sawmills	648	87,830	87,382	−0.5	1,413,061	1,424,440	+0.8
Lumber, millwork	340	24,404	24,937	+2.2	482,936	506,467	+4.9
Furniture	458	52,203	53,001	+1.5	951,186	1,025,017	+7.8
Leather and its products	**429**	**119,104**	**123,373**	(1)	**2,144,140**	**2,439,845**	(1)
Leather	131	22,813	22,796	−0.1	514,163	530,222	+3.1
Boots and shoes	298	96,291	100,577	+4.5	1,629,977	1,909,623	+17.2
Paper and printing	**1,504**	**211,442**	**208,914**	(1)	**6,730,935**	**6,700,229**	(1)
Paper and pulp	218	53,460	53,360	−0.2	1,287,481	1,338,806	+4.0
Paper boxes	309	23,983	23,662	−1.3	504,080	509,303	+1.0
Printing, book and job	555	54,806	53,687	−2.0	1,834,285	1,772,703	−3.4
Printing, newspapers	422	79,193	78,205	−1.2	3,105,089	3,079,417	−0.8
Chemicals and allied products	**461**	**100,973**	**100,163**	(1)	**2,826,398**	**2,891,452**	(1)
Chemicals	162	38,145	38,032	−0.3	979,926	1,017,697	+3.9
Fertilizers	207	10,853	10,955	+0.9	180,524	180,290	−0.1
Petroleum refining	92	51,975	51,116	−1.7	1,665,948	1,693,465	+1.7
Stone, clay, and glass products	**1,056**	**94,545**	**96,770**	(1)	**1,990,005**	**2,206,334**	(1)
Cement	112	17,257	17,490	+1.4	403,638	457,499	+13.3
Brick, tile, and terra cotta	689	26,156	26,518	+1.4	487,932	518,080	+6.2
Pottery	115	16,856	17,062	+1.2	332,036	361,626	+8.9
Glass	140	34,276	35,700	+4.2	766,399	869,129	+13.4
Metal products, other than iron and steel	**233**	**42,099**	**42,847**	(1)	**915,257**	**984,752**	(1)
Stamped and enameled ware	77	15,230	16,140	+6.0	290,220	355,368	+22.4
Brass, bronze, and copper products	156	26,869	26,707	−0.6	625,037	629,384	+0.7
Tobacco products	**217**	**53,195**	**58,430**	(1)	**788,090**	**800,273**	(1)
Chewing and smoking tobacco and snuff	27	9,350	9,356	+0.1	144,269	145,662	+1.0
Cigars and cigarettes	190	43,845	49,074	+11.9	643,821	654,611	+1.7

See footnotes at end of table.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931, BY INDUSTRIES—Continued

Industry	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Vehicles for land transportation	**1,246**	**399,173**	**404,014**	(1)	**$8,502,629**	**$11,223,278**	(1)
Automobiles	206	265,171	271,615	+2.4	4,849,545	7,397,123	+52.5
Carriages and wagons	51	716	755	+5.4	14,582	15,891	+9.0
Car building and repairing, electric-railroad	441	29,023	29,027	+(2)	864,861	878,633	+1.6
Car building and repairing, steam-railroad	548	104,263	102,617	−1.6	2,773,641	2,931,631	+5.7
Miscellaneous industries	**494**	**275,067**	**272,102**	(1)	**7,184,972**	**7,241,548**	(1)
Agricultural implements	82	19,814	19,340	−2.4	485,179	483,766	−0.3
Electrical machinery, apparatus, and supplies	210	160,634	160,257	−0.2	4,270,888	4,363,515	+2.2
Pianos and organs	68	5,800	5,639	−2.8	140,761	130,388	−7.4
Rubber boots and shoes	10	13,968	13,662	−2.2	260,110	225,247	−13.4
Automobile tires and inner tubes	35	37,436	37,038	−1.1	990,466	1,022,540	+3.2
Shipbuilding	89	37,415	36,166	−3.3	1,037,568	1,016,092	−2.1
Total—51 industries used in computing index numbers of employment and pay roll	**13,377**	**2,739,977**	**2,772,219**	(1)	**61,386,542**	**66,567,283**	(1)
Industries added since February, 1929, for which data for the index-base year (1926) are not available	**906**	**137,374**	**127,648**	(3)	**3,305,176**	**3,128,577**	(3)
Rayon	17	19,889	19,998	+0.5	404,996	406,107	+0.3
Radio	42	23,540	22,260	−5.4	524,143	482,874	−7.9
Aircraft	41	8,865	8,440	−4.8	268,527	265,135	−1.3
Jewelry	152	12,977	13,349	+2.9	292,275	274,990	−5.9
Paint and varnish	233	14,520	14,688	+1.2	386,402	406,600	+5.2
Rubber goods, other than boots, shoes, tires, and inner tubes	71	13,095	13,063	−0.2	302,433	300,780	−0.5
Beet sugar	68	10,813	2,586	−76.1	208,763	87,422	−58.1
Beverages	231	10,417	10,543	+1.2	305,822	312,300	+2.1
Cash registers, adding machines, and calculating machines	45	17,543	17,100	−2.5	499,015	481,386	−3.5
Typewriters and supplies	6	5,715	5,621	−1.6	112,800	110,983	−1.6
All industries	**14,283**	**2,877,351**	**2,899,867**	(3)	**64,691,718**	**69,695,860**	(3)

RECAPITULATION BY GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISIONS [4]							
New England	1,521	321,214	328,725	+2.3	$6,957,295	$7,278,119	+4.6
Middle Atlantic	3,598	856,415	861,682	+0.6	21,097,922	21,981,348	+4.2
East North Central	3,467	909,226	923,985	+1.6	20,452,837	23,812,143	+16.4
West North Central	1,337	161,934	161,259	−0.4	3,833,806	3,917,294	+2.2
South Atlantic	1,721	300,298	304,109	+1.3	5,298,459	5,540,788	+4.6
East South Central	692	105,110	105,212	+0.1	1,789,399	1,879,826	+5.1
West South Central	810	86,010	86,479	+0.5	1,857,255	1,901,609	+2.4
Mountain	301	33,719	26,007	−22.9	815,817	685,246	−16.0
Pacific	836	103,425	102,409	−1.0	2,588,928	2,699,487	+4.3
All divisions	**14,283**	**2,877,351**	**2,899,867**	(3)	**64,691,718**	**69,695,860**	(3)

[1] The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting; for the weighted per cent of change, wherein proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

[2] Less than one-tenth of 1 per cent.

[3] The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting.

[4] See footnotes 4 to 12, p. 201.

TABLE 2.—PER CENT OF CHANGE, JANUARY, 1931, TO FEBRUARY, 1931—12 GROUPS OF MANUFACTURING INDUSTRIES AND TOTAL OF 54 INDUSTRIES INCLUDED IN INDEX

[Computed from the index numbers of each group, which are obtained by weighting the index numbers of the several industries of the group, by the number of employees, or wages paid, in the industries]

Group	Per cent of change January to February, 1931		Group	Per cent of change January to February, 1931	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products	−0.8	−1.8	Metal products, other than iron and steel	+1.4	+6.5
Textiles and their products	+4.1	+11.6	Tobacco products	+10.2	+1.6
Iron and steel and their products	+0.6	+6.3	Vehicles for land transportation	+0.3	+23.5
Lumber and its products	+0.4	+3.7	Miscellaneous industries	−1.1	+0.7
Leather and its products	+3.5	+13.5			
Paper and printing	−1.2	−0.6	**Total—54 industries**	**+1.4**	**+7.5**
Chemicals and allied products	−0.7	+2.4			
Stone, clay, and glass products	+2.3	+10.5			

Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, February, 1931, with February, 1930

THE level of employment in manufacturing industries in February, 1931, was 17.9 per cent below the level of February, 1930, and pay-roll totals were 26.1 per cent lower.

Each of the 54 industries had fewer employees in February, 1931, than in February, 1930, the outstanding decreases having been 43.3 per cent in carriages and wagons; 37.5 per cent and 37.3 per cent, respectively, in agricultural implements and machine tools; from 20 to 30 per cent each, in carpets, shirts, structural-iron work, hardware, foundry and machine-shop products, stoves, sawmills, millwork, furniture, fertilizers, petroleum refining, brick, glass, automobiles, steam railroad car building, electrical goods, and rubber boots and shoes. The iron and steel, cotton goods, and shipbuilding industries lost slightly over 17 per cent each of their employees over the 12-month interval.

Among the 12 groups of industries the losses in employment were over 20 per cent each in lumber, vehicles, iron and steel, and the group of miscellaneous industries; the losses were between 13.1 per cent and 19.3 per cent each in the leather, textile, chemical, nonferrous metal, and stone-clay-glass groups; in the remaining groups the losses were 8.4 per cent in paper, 7.6 per cent in food, and 6 per cent in tobacco.

The smallest decreases in employment in February in the several geographic divisions, ranging from 15.2 per cent to 16.9 per cent were in the South Atlantic, New England, Middle Atlantic, and West North Central division; the greatest decrease, 24 per cent, was in the West South Central division.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, FEBRUARY, 1931, WITH FEBRUARY, 1930

[The per cents of change for each of the 12 groups of industries and for the total of all industries are weighted in the same manner as are the per cents of change in Table 2]

Industry	Per cent of change February, 1931, compared with February, 1930		Industry	Per cent of change February, 1931, compared with February, 1930	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products	**−7.6**	**−9.8**	**Chemicals and allied products**	**−14.9**	**−16.5**
Slaughtering and meat packing	−8.5	−7.8	Chemicals	−6.8	−11.1
Confectionery	−4.8	−12.5	Fertilizers	−25.4	−28.8
Ice cream	−3.4	+1.1	Petroleum refining	−20.4	−19.3
Flour	−11.9	−16.1			
Baking	−7.3	−10.8	**Stone, clay, and glass products**	**−19.3**	**−26.5**
Sugar refining, cane	−11.1	−10.5	Cement	−13.9	−21.0
			Brick, tile, and terra cotta	−22.9	−32.8
Textiles and their products	**−14.5**	**−19.4**	Pottery	−14.0	−24.4
Cotton goods	−17.4	−22.2	Glass	−21.2	−25.1
Hosiery and knit goods	−15.3	−26.1			
Silk goods	−13.1	−18.2	**Metal products, other than iron and steel**	**−17.0**	**−26.7**
Woolen and worsted goods	−11.8	−10.7	Stamped and enameled ware	−12.5	−15.1
Carpets and rugs	−27.8	−27.1	Brass, bronze, and copper products	−19.0	−30.7
Dyeing and finishing textiles	−4.9	−3.0			
Clothing, men's	−15.7	−24.6	**Tobacco products**	**−6.0**	**−18.3**
Shirts and collars	−21.3	−31.0	Chewing and smoking tobacco and snuff	−0.1	−9.3
Clothing, women's	−6.4	−14.6	Cigars and cigarettes	−6.7	−19.6
Millinery and lace goods	−13.7	−23.0			
			Vehicles for land transportation	**−22.7**	**−31.5**
Iron and steel and their products	**−22.5**	**−35.4**	Automobiles	−22.1	−34.1
Iron and steel	−17.3	−30.8	Carriages and wagons	−43.3	−45.7
Cast-iron pipe	−16.0	−22.9	Car building and repairing, electric-railroad	−11.5	−14.2
Structural ironwork	−20.0	−30.8	Car building and repairing, steam-railroad	−23.9	−30.0
Foundry and machine-shop products	−26.1	−39.6			
Hardware	−20.2	−35.6	**Miscellaneous industries**	**−21.5**	**−30.4**
Machine tools	−37.3	−49.9	Agricultural implements	−37.5	−47.3
Steam fittings and steam and hot-water heating apparatus	−16.2	−26.9	Electrical machinery, apparatus, and supplies	−21.8	−30.0
Stoves	−25.7	−35.5	Pianos and organs	−16.8	−32.2
			Rubber boots and shoes	−26.4	−49.0
Lumber and its products	**−27.3**	**−37.3**	Automobile tires and inner tubes	−15.1	−25.6
Lumber, sawmills	−30.2	−42.3	Shipbuilding	−17.1	−22.8
Lumber, millwork	−21.8	−29.8			
Furniture	−23.5	−32.4	**Total—54 industries**	**−17.9**	**−26.1**
Leather and its products	**−13.1**	**−20.2**			
Leather	−13.7	−20.3			
Boots and shoes	−13.0	−20.2			
Paper and printing	**−8.4**	**−12.2**			
Paper and pulp	−14.3	−21.5			
Paper boxes	−10.1	−15.4			
Printing, book and job	−7.8	−12.3			
Printing, newspapers	−3.1	−5.6			

RECAPITULATION BY GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISION[1]			GEOGRAPHIC DIVISION—contd.		
New England	−15.8	−22.4	West South Central	−24.0	−27.5
Middle Atlantic	−16.0	−24.9	Mountain	−19.8	−25.2
East North Central	−20.7	−31.0	Pacific	−19.6	−25.6
West North Central	−16.9	−21.0			
South Atlantic	−15.2	−22.1	**All divisions**	**−17.1**	**−26.1**
East South Central	−21.8	−29.1			

[1] See footnotes 4 to 12, p. 201.

Per Capita Earnings in Manufacturing Industries

ACTUAL per capita weekly earnings in February, 1931, for each of the 64 manufacturing industries surveyed by the Bureau of Labor Statistics, together with per cents of change in February, 1931, as compared with January, 1931, and February, 1930, are shown in Table 4.

Per capita earnings in February, 1931, for the combined 54 chief manufacturing industries of the United States, upon which the bureau's indexes of employment and pay rolls are based, were 6.1 per cent higher than in January, 1931, and 10.0 per cent lower than February, 1930.

The actual average per capita weekly earnings in February, 1931, for the 54 manufacturing industries were $24.01; the average per capita earnings for all of the 64 manufacturing industries surveyed were $24.03.

Per capita earnings given in Table 4 must not be confused with full-time weekly rates of wages. They are actual per capita weekly earnings computed by dividing the total number of employees reported into the total amount of pay roll in the week reported, and the "number of employees" includes all persons who worked any part of the period reported—that is, part-time workers as well as full-time workers.

TABLE 4.—PER CAPITA WEEKLY EARNINGS IN **MANUFACTURING** INDUSTRIES IN FEBRUARY, 1931, AND COMPARISON WITH JANUARY, 1931, AND FEBRUARY, 1930

Industry	Per capita weekly earnings in February, 1931	Per cent of change February, 1931, compared with—	
		January, 1931	February, 1930
Food and kindred products:			
Slaughtering and meat packing	$26.08	−2.7	+0.9
Confectionery	17.71	−3.3	−8.1
Ice cream	33.50	+2.6	+4.5
Flour	25.64	+1.7	−4.9
Baking	26.36	−0.2	−3.6
Sugar refining, cane	29.79	+5.6	+0.5
Textiles and their products:			
Cotton goods	14.34	+0.6	−5.6
Hosiery and knit goods	16.83	+5.8	−13.0
Silk goods	19.24	+7.6	−5.8
Woolen and worsted goods	21.50	+6.5	+1.5
Carpets and rugs	22.96	+16.6	+1.0
Dyeing and finishing textiles	25.72	+9.0	+1.9
Clothing, men's	20.05	+9.7	−10.8
Shirts and collars	13.84	+5.1	−12.3
Clothing, women's	25.98	+10.8	−8.9
Millinery and lace goods	21.35	+7.3	−10.6
Iron and steel and their products:			
Iron and steel	26.36	+10.1	−16.1
Cast-iron pipe	20.77	+2.2	−8.1
Structural-iron work	25.40	−0.3	−13.6
Foundry and machine-shop products	24.34	+3.4	−18.2
Hardware	19.99	+2.0	−19.2
Machine tools	24.32	+3.5	−20.0
Steam fittings and steam and hot-water heating apparatus	24.40	+1.7	−12.8
Stoves	23.40	+7.4	−13.1
Lumber and its products:			
Lumber, sawmills	16.30	+1.3	−17.2
Lumber, millwork	20.31	+2.6	−10.2
Furniture	19.34	+6.1	−11.8
Leather and its products:			
Leather	23.26	+3.2	−7.9
Boots and shoes	18.99	+12.2	−8.3

TABLE 4.—PER CAPITA WEEKLY EARNINGS IN **MANUFACTURING** INDUSTRIES IN FEBRUARY, 1931, AND COMPARISON WITH JANUARY, 1931, AND FEBRUARY, 1930—Continued

Industry	Per capita weekly earnings in February, 1931	Per cent of change February, 1931, compared with—	
		January, 1931	February, 1930
Paper and printing:			
Paper and pulp	$25.09	+4.2	−8.7
Paper boxes	21.52	+2.4	−5.6
Printing, book and job	33.02	−1.3	−5.1
Printing, newspapers	39.38	+0.4	−2.4
Chemicals and allied products:			
Chemicals	26.76	+4.2	−4.5
Fertilizers	16.46	−1.0	−4.7
Petroleum refining	33.13	+3.4	+1.1
Stone, clay, and glass products:			
Cement	26.16	+11.8	−8.3
Brick, tile, and terra cotta	19.54	+4.8	−12.8
Pottery	21.19	+7.6	−12.0
Glass	24.35	+8.9	−4.7
Metal products, other than iron and steel:			
Stamped and enameled ware	22.02	+15.5	−2.7
Brass, bronze, and copper products	23.57	+1.3	−14.7
Tobacco products:			
Chewing and smoking tobacco and snuff	15.57	+0.9	−8.7
Cigars and cigarettes	13.34	−9.1	−13.7
Vehicles for land transportation:			
Automobiles	27.23	+48.9	−15.4
Carriages and wagons	21.05	+3.3	−3.9
Car building and repairing, electric-railroad	30.27	+1.6	−2.8
Car building and repairing, steam-railroad	28.57	+7.4	−7.7
Miscellaneous industries:			
Agricultural implements	25.01	+2.1	−15.7
Electrical machinery, apparatus, and supplies	27.23	+2.4	−10.2
Pianos and organs	23.12	−4.7	−18.3
Rubber boots and shoes	16.49	−11.4	−30.9
Automobile tires and inner tubes	27.61	+4.3	−12.7
Shipbuilding	28.10	+1.3	−6.9
Industries added since February, 1929, for which data for the index-base year (1926) are not available:			
Rayon	20.31	−0.2	−6.4
Radio	21.69	−2.6	−20.4
Aircraft	31.41	+3.7	−3.5
Jewelry	20.60	−8.5	−19.5
Paint and varnish	27.68	+4.0	−1.8
Rubber goods, other than boots, shoes, tires, and inner tubes	23.03	−0.3	−14.1
Beet sugar	33.81	+75.1	(1)
Beverages	29.62	+0.9	(1)
Cash registers, adding machines, and calculating machines	28.15	−1.1	(1)
Typewriters and supplies	19.74	(2)	(1)

[1] Data not available.

[2] No change.

Index Numbers of Employment and Pay-Roll Totals in Manufacturing Industries

TABLE 5 shows the general index of employment in manufacturing industries and the general index of pay-roll totals, by months, from January, 1923, to February, 1931, together with the average indexes for each of the years 1923 to 1930, inclusive.

TABLE 5.—GENERAL INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, JANUARY, 1923, TO FEBRUARY, 1931

[Monthly average, 1926=100]

Month	Employment									Pay-roll totals								
	1923	1924	1925	1926	1927	1928	1929	1930	1931	1923	1924	1925	1926	1927	1928	1929	1930	1931
Jan.	106.6	103.8	97.9	100.4	97.3	91.6	95.2	90.2	73.1	95.8	98.6	93.9	98.0	94.9	89.6	94.5	87.6	62.3
Feb.	108.4	105.1	99.7	101.5	99.0	93.0	97.4	90.3	74.1	99.4	103.8	99.3	102.2	100.6	93.9	101.8	90.7	67.0
Mar.	110.8	104.9	100.4	102.0	99.5	93.7	98.6	89.8	-----	104.7	103.3	100.8	103.4	102.0	95.2	103.9	90.8	-----
Apr.	100.8	102.8	100.2	101.0	98.6	93.3	99.1	89.1	-----	105.7	101.1	98.3	101.5	100.8	93.8	104.6	89.8	-----
May	110.8	98.8	98.9	99.8	97.6	93.0	99.2	87.7	-----	109.4	96.5	98.5	99.8	99.8	94.1	104.8	87.6	-----
June	110.9	95.6	98.0	99.3	97.0	93.1	98.8	85.5	-----	109.3	90.8	95.7	99.7	97.4	94.2	102.8	84.1	-----
July	109.2	92.3	97.2	97.7	95.0	92.2	98.2	81.6	-----	104.3	84.3	93.5	95.2	93.0	91.2	98.2	75.9	-----
Aug.	108.5	92.5	97.8	98.7	95.1	93.6	98.6	79.9	-----	103.7	87.2	95.4	98.7	95.0	94.2	102.1	73.9	-----
Sept.	108.6	94.3	98.9	100.3	95.8	95.0	99.3	79.7	-----	104.4	89.8	94.4	99.3	94.1	95.4	102.6	74.2	-----
Oct.	108.1	95.6	100.4	100.7	95.3	95.9	98.3	78.6	-----	106.8	92.4	100.4	102.9	95.2	99.0	102.3	72.7	-----
Nov.	107.4	95.5	100.7	99.5	93.5	95.4	94.8	76.5	-----	105.4	91.4	100.4	99.6	91.6	96.1	95.1	68.3	-----
Dec.	105.4	97.3	100.8	98.9	92.6	95.5	91.9	75.1	-----	103.2	95.7	101.6	99.8	93.2	97.7	92.0	67.4	-----
Av.	**108.8**	**98.2**	**99.2**	**100.0**	**96.4**	**93.8**	**97.5**	**83.7**	[1] **73.6**	**104.3**	**94.6**	**97.7**	**100.0**	**96.5**	**94.5**	**100.4**	**80.3**	[1] **64.7**

[1] Average for 2 months.

Index numbers showing relatively the variation in number of persons employed and in pay-roll totals in each of the 54 manufacturing industries surveyed by the Bureau of Labor Statistics and in each of the 12 groups of industries, and also general indexes for the combined 12 groups of industries, are shown in Table 6 for February and December, 1930, and January and February, 1931.

In computing the general indexes and the group indexes the index numbers of separate industries are weighted according to the relative importance of the industries.

Following Table 6 are two charts which represent the 54 separate industries combined and show the course of pay-roll totals as well as the course of employment for each month of the years 1926 to 1930, and for January and February, 1931.

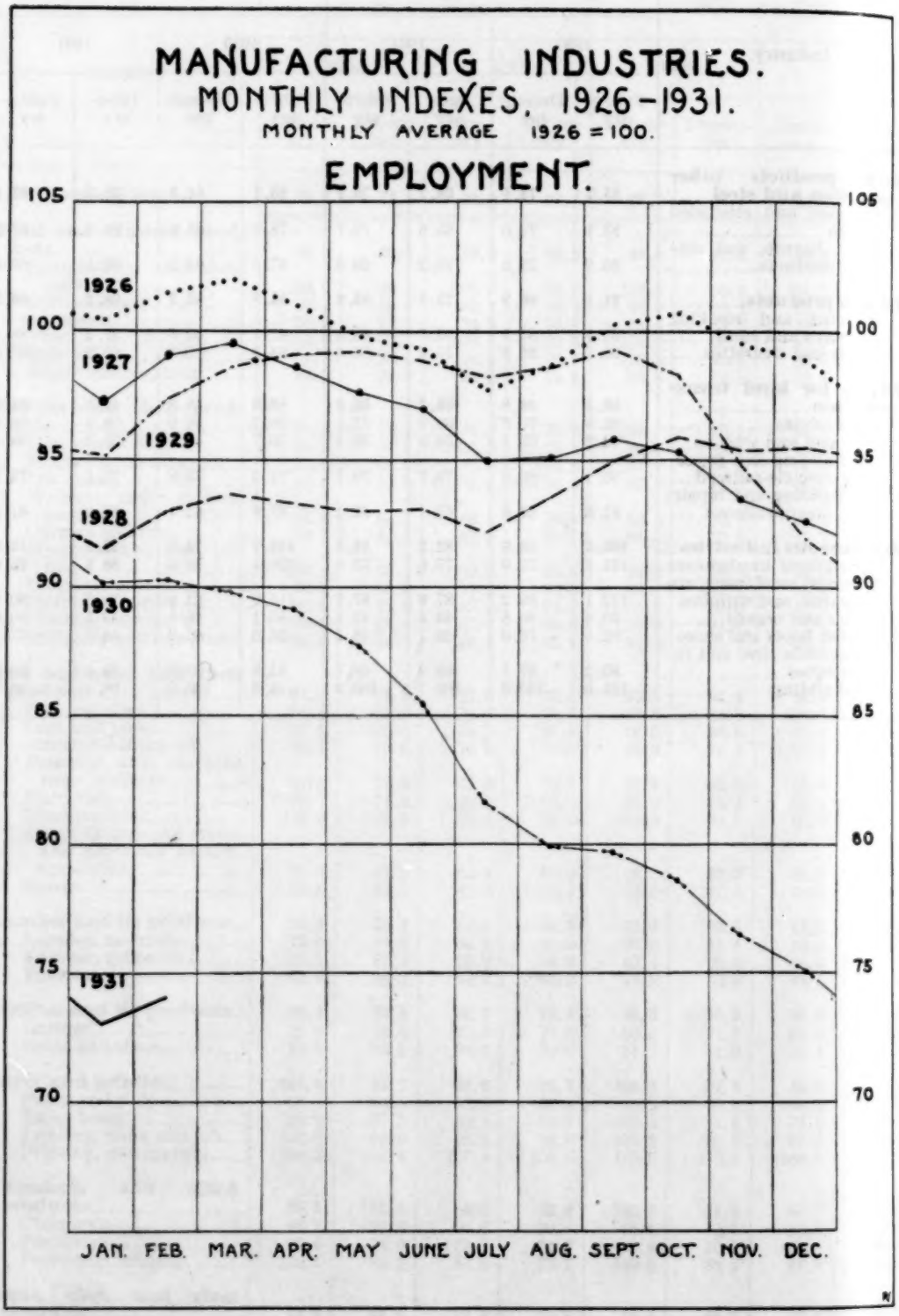
TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, FEBRUARY AND DECEMBER, 1930, AND JANUARY AND FEBRUARY, 1931

[Monthly average, 1926=100]

Industry	Employment				Pay-roll totals			
	1930		1931		1930		1931	
	February	December	January	February	February	December	January	February
General index	**90.3**	**75.1**	**73.1**	**74.1**	**90.7**	**67.4**	**62.3**	**67.0**
Food and kindred products	**96.5**	**92.1**	**89.9**	**89.2**	**99.0**	**92.4**	**90.9**	**89.3**
Slaughtering and meat packing	102.7	96.1	96.6	94.0	104.4	98.6	101.7	96.3
Confectionery	88.1	90.6	83.1	83.9	90.4	90.3	81.1	79.1
Ice cream	77.3	75.3	74.3	74.7	75.4	74.2	73.9	76.2
Flour	101.0	92.1	90.4	89.0	104.8	91.5	87.7	87.9
Baking	97.7	93.3	90.5	90.6	100.3	92.4	89.6	89.5
Sugar refining, cane	89.9	79.8	81.4	79.9	92.0	79.2	79.3	82.3
Textiles and their products	**91.9**	**77.1**	**75.5**	**78.6**	**89.7**	**68.1**	**64.8**	**72.3**
Cotton goods	88.7	74.7	73.2	73.3	84.6	69.1	65.3	65.8
Hosiery and knit goods	93.6	83.6	75.0	79.3	97.4	76.8	64.4	72.0
Silk goods	97.0	82.5	81.6	84.3	96.1	77.8	70.8	78.6
Woolen and worsted goods	84.8	69.7	68.8	74.8	80.5	64.2	61.9	71.9
Carpets and rugs	99.3	65.1	67.0	71.7	86.1	52.6	50.2	62.8
Dyeing and finishing textiles	100.4	93.1	92.9	95.5	99.2	88.1	85.9	96.2
Clothing, men's	89.7	68.9	71.2	75.6	83.4	49.9	53.9	62.9
Shirts and collars	90.8	72.0	67.2	71.5	85.6	59.0	52.9	59.1
Clothing, women's	100.0	88.8	87.8	93.6	99.9	74.4	72.1	85.3
Millinery and lace goods	95.5	74.0	76.8	82.4	94.8	61.1	63.3	73.0
Iron and steel and their products	**92.9**	**74.0**	**71.6**	**72.0**	**93.5**	**61.4**	**56.8**	**60.4**
Iron and steel	90.8	75.6	74.8	75.1	93.8	61.8	58.8	64.9
Cast-iron pipe	67.6	55.4	53.8	56.8	65.6	50.8	46.8	50.6
Structural ironwork	94.7	83.6	78.9	75.8	93.3	75.5	67.4	64.6
Foundry and machine shop products	97.8	74.8	71.9	72.3	97.8	62.2	56.9	59.1
Hardware	86.7	71.8	69.7	69.2	84.0	58.4	53.5	54.1
Machine tools	116.5	78.3	74.4	73.0	114.9	62.3	56.6	57.6
Steam fittings and steam and hot-water heating apparatus	71.6	61.7	60.9	60.0	68.3	52.7	49.8	49.9
Stoves	80.8	61.9	52.7	60.0	73.0	47.6	38.5	47.1
Lumber and its products	**74.7**	**58.2**	**54.1**	**54.3**	**71.3**	**49.6**	**43.1**	**44.7**
Lumber, sawmills	72.5	55.3	50.9	50.6	69.8	47.4	40.0	40.3
Lumber, millwork	70.1	57.2	53.6	54.8	67.1	50.4	44.9	47.1
Furniture	83.3	66.2	62.7	63.7	77.2	53.6	48.4	52.2
Leather and its products	**91.4**	**73.8**	**76.7**	**79.4**	**83.3**	**56.3**	**58.6**	**66.5**
Leather	89.9	76.4	77.6	77.6	90.3	71.7	69.9	72.0
Boots and shoes	91.8	73.1	76.5	79.9	81.3	51.9	55.4	64.9
Paper and printing	**101.0**	**95.7**	**93.6**	**92.5**	**106.3**	**97.9**	**93.9**	**93.3**
Paper and pulp	96.1	84.9	82.5	82.4	99.2	79.3	74.9	77.9
Paper boxes	90.9	87.7	82.8	81.7	95.3	87.4	79.8	80.6
Printing, book and job	102.8	98.0	96.8	94.8	107.2	99.8	97.3	94.0
Printing, newspapers	109.2	108.4	107.1	105.8	113.6	112.4	108.1	107.2
Chemicals and allied products	**98.6**	**85.9**	**84.5**	**83.9**	**100.2**	**85.2**	**81.7**	**83.7**
Chemicals	97.1	92.2	90.8	90.5	98.4	89.7	84.3	87.5
Fertilizers	99.4	74.9	73.5	74.2	93.4	70.2	66.6	66.5
Petroleum refining	100.1	82.5	81.0	79.7	103.0	83.6	81.8	83.1
Stone, clay, and glass products	**72.9**	**64.3**	**57.5**	**58.8**	**69.0**	**55.3**	**45.9**	**50.7**
Cement	66.1	62.7	56.1	56.9	63.7	54.0	44.4	50.3
Brick, tile, and terra cotta	57.7	53.8	43.9	44.5	50.6	42.8	32.0	34.0
Pottery	92.4	80.5	78.5	79.5	86.5	70.3	60.1	65.4
Glass	89.0	72.1	67.3	70.1	89.8	66.3	59.3	67.3

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, FEBRUARY AND DECEMBER, 1930, AND JANUARY AND FEBRUARY, 1931—Continued

Industry	Employment				Pay-roll totals			
	1930		1931		1930		1931	
	February	December	January	February	February	December	January	February
Metal products other than iron and steel	**85.2**	**72.4**	**69.7**	**70.7**	**85.1**	**64.3**	**58.6**	**62.4**
Stamped and enameled ware	83.1	72.0	68.6	72.7	78.9	64.6	54.8	67.0
Brass, bronze, and copper products	86.2	72.6	70.2	69.8	87.5	64.2	60.1	60.6
Tobacco products	**91.1**	**86.9**	**77.7**	**85.6**	**84.8**	**82.2**	**68.2**	**69.3**
Chewing and smoking tobacco and snuff	93.9	87.7	93.7	93.8	97.1	82.3	87.2	88.1
Cigars and cigarettes	90.7	86.8	75.6	84.6	83.3	82.2	65.9	67.0
Vehicles for land transportation	**86.5**	**66.8**	**66.7**	**66.9**	**89.0**	**58.8**	**49.4**	**61.0**
Automobiles	91.8	70.6	69.9	71.5	90.2	54.0	38.9	59.4
Carriages and wagons	64.2	39.5	34.5	36.4	70.7	40.1	35.2	38.4
Car building and repairing, electric-railroad	90.1	80.5	79.7	79.7	91.3	79.8	77.1	78.3
Car building and repairing, steam-railroad	81.6	62.6	63.1	62.1	87.8	62.4	58.2	61.5
Miscellaneous industries	**103.6**	**83.0**	**82.2**	**81.3**	**105.7**	**76.0**	**73.1**	**73.6**
Agricultural implements	121.3	72.9	77.6	75.8	126.4	59.0	66.8	66.6
Electrical machinery, apparatus, and supplies	112.1	89.2	87.9	87.7	115.0	83.6	78.8	80.5
Pianos and organs	50.6	46.8	43.3	42.1	45.1	39.5	33.1	30.6
Rubber boots and shoes	92.5	76.0	69.7	68.1	93.0	65.2	54.7	47.4
Automobile tires and inner tubes	80.2	67.1	68.9	68.1	81.9	55.2	59.0	60.9
Shipbuilding	121.0	105.0	103.7	100.3	124.6	105.3	98.3	96.2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MONTHLY INDEXES, 1926-1931.
MONTHLY AVERAGE 1926 = 100.
EMPLOYMENT.
105
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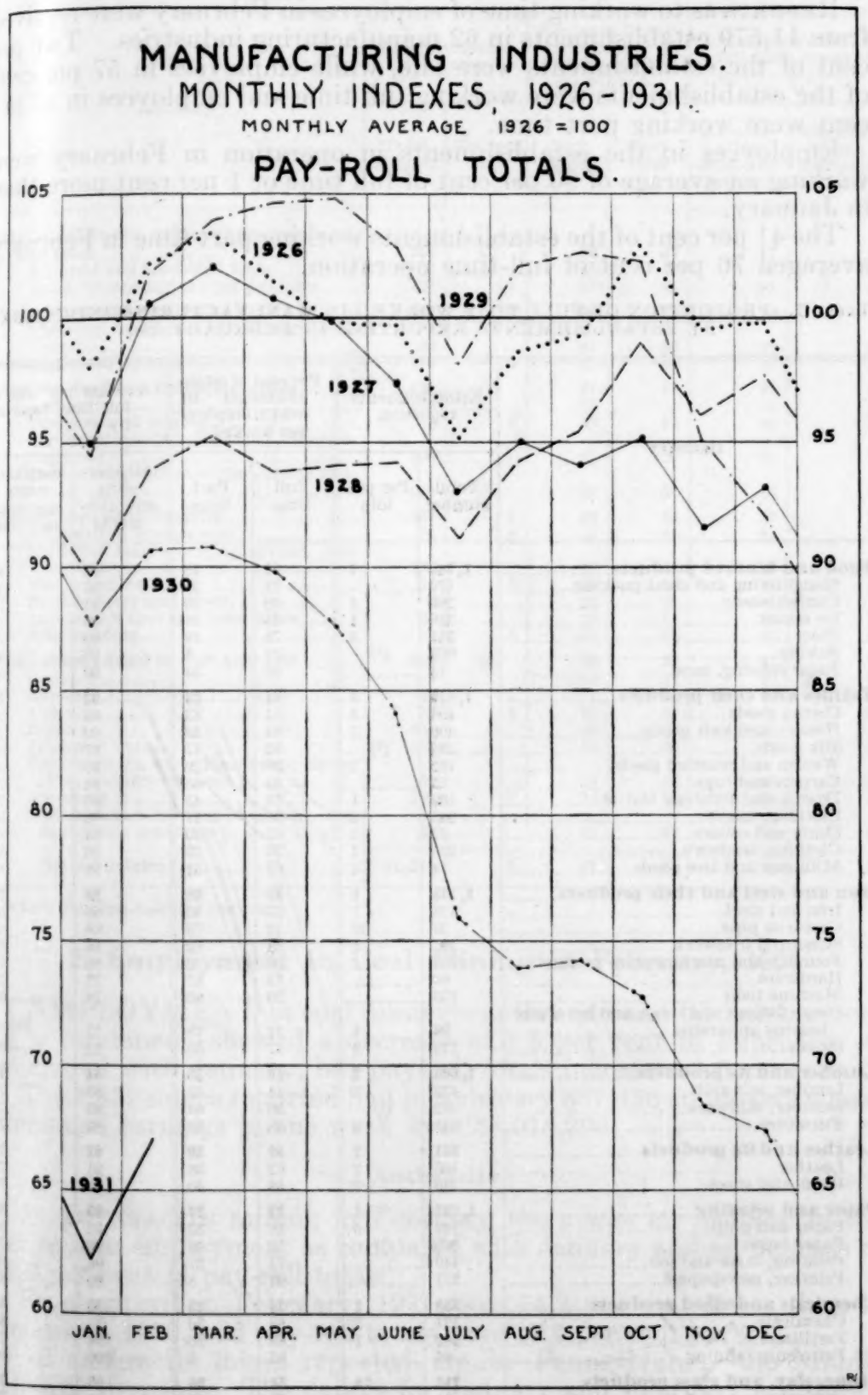
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.


MANUFACTURING INDUSTRIES.
MONTHLY INDEXES, 1926-1931.
MONTHLY AVERAGE 1926 = 100
PAY-ROLL TOTALS.
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JAN. FEB MAR. APR. MAY JUNE JULY AUG. SEPT OCT NOV DEC

Time Worked in Manufacturing Industries in February, 1931

REPORTS as to working time of employees in February were received from 11,579 establishments in 62 manufacturing industries. Two per cent of the establishments were idle, while employees in 57 per cent of the establishments were working full time and employees in 41 per cent were working part time.

Employees in the establishments in operation in February were working an average of 90 per cent of full time or 1 per cent more than in January.

The 41 per cent of the establishments working part time in February averaged 76 per cent of full-time operation.

TABLE 7.—PROPORTION OF FULL TIME WORKED IN MANUFACTURING INDUSTRIES BY ESTABLISHMENTS REPORTING IN FEBRUARY, 1931

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Food and kindred products	**1,746**	**1**	**81**	**18**	**96**	**80**
Slaughtering and meat packing	179		78	22	97	88
Confectionery	280	1	60	39	91	78
Ice cream	238	1	83	16	98	87
Flour	367	3	78	19	95	74
Baking	669	(1)	92	8	99	80
Sugar refining, cane	13		46	54	90	81
Textiles and their products	**1,879**	**3**	**64**	**33**	**93**	**78**
Cotton goods	406	5	51	43	88	73
Hoisery and knit goods	300	3	64	33	92	76
Silk goods	238	(1)	82	17	97	81
Woolen and worsted goods	162	2	69	29	95	80
Carpets and rugs	23		35	65	84	76
Dyeing and finishing textiles	109	1	56	43	90	77
Clothing, men's	245	2	57	41	92	80
Shirts and collars	87	3	67	30	94	80
Clothing, women's	235	1	76	23	96	83
Millinery and lace goods	74	4	65	31	96	88
Iron and steel and their products	**1,735**	**1**	**30**	**68**	**80**	**71**
Iron and steel	128	7	57	36	86	65
Cast-iron pipe	39	10	10	79	68	63
Structural ironwork	165	1	38	62	86	78
Foundry and machine-shop products	994	1	29	70	80	71
Hardware	60		13	87	77	73
Machine tools	133		20	80	74	68
Steam fittings and steam and hot-water heating apparatus	98	1	21	78	77	70
Stoves	118	3	37	60	82	70
Lumber and its products	**1,005**	**2**	**40**	**58**	**84**	**73**
Lumber, sawmills	412	3	44	53	85	72
Lumber, millwork	252	(1)	36	64	83	73
Furniture	341	2	38	60	83	73
Leather and its products	**351**	**2**	**59**	**39**	**92**	**78**
Leather	105	2	62	36	91	77
Boots and shoes	246	2	58	40	92	79
Paper and printing	**1,222**	**1**	**72**	**27**	**95**	**82**
Paper and pulp	142	5	58	37	92	80
Paper boxes	260	(1)	52	48	90	79
Printing, book and job	449		73	27	96	84
Printing, newspapers	371		92	8	99	89
Chemicals and allied products	**359**	**1**	**74**	**25**	**95**	**81**
Chemicals	131	2	68	30	95	83
Fertilizers	162	1	69	30	94	79
Petroleum refining	66		95	5	100	91
Stone, clay, and glass products	**715**	**10**	**54**	**36**	**90**	**75**
Cement	85	14	73	13	96	73
Brick, tile, and terra cotta	411	11	46	43	88	75
Pottery	102	3	53	44	89	76
Glass	117	9	71	20	95	76

[1] Less than one-half of 1 per cent.

TABLE 7.—PROPORTION OF FULL TIME WORKED IN **MANUFACTURING** INDUSTRIES BY ESTABLISHMENTS REPORTING IN FEBRUARY, 1931—Continued

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Metal products, other than iron and and steel	**204**	(1)	**43**	**57**	**87**	**77**
Stamped and enameled ware	67		58	42	91	79
Brass, bronze and copper products	137	1	35	64	85	76
Tobacco products	**205**	**3**	**34**	**63**	**85**	**77**
Chewing and smoking tobacco and snuff	25		44	56	91	84
Cigars and cigarettes	180	3	33	64	84	76
Vehicles for land transportation	**1,129**	(1)	**57**	**42**	**91**	**76**
Automobiles	176		35	65	84	76
Carriages and wagons	44	5	43	52	89	79
Car building and repairing, electric-railroad	396		81	19	97	87
Car building and repairing, steam-railroad	513	(1)	48	52	88	73
Miscellaneous industries	**427**	**2**	**44**	**55**	**87**	**76**
Agricultural implements	74	4	32	64	81	71
Electrical machinery, apparatus, and supplies	173		47	53	88	78
Pianos and organs	57	2	28	70	79	71
Rubber boots and shoes	9		22	78	81	76
Automobile tires and inner tubes	27		19	81	80	76
Ship building	87	3	67	30	95	85
Industries added in 1929 and 1930	**602**	(1)	**61**	**38**	**91**	**78**
Radio	8		75	25	96	83
Rayon	38	3	71	26	94	77
Aircraft	35	6	66	29	96	86
Jewelry	104		36	64	82	72
Paint and varnish	172		60	40	92	81
Rubber goods, other than boots, shoes, tires, and inner tubes	65		58	42	92	79
Beverages	146		76	24	94	77
Cash registers, adding machines, and calculating machines	34		68	32	95	84
All industries	**11,579**	**2**	**57**	**41**	**90**	**76**

[1] Less than one-half of 1 per cent.

2. Employment in Coal Mining in February, 1931

EMPLOYMENT in coal mining—anthracite and bituminous coal combined—showed a decrease of 1.5 per cent in February, as compared with January, but pay-roll totals increased 1.9 per cent.

The 1,459 mines reported had in February 337,456 employees whose combined earnings in one week were $8,018,296.

Anthracite

IN ANTHRACITE mining in February there was an increase of 0.4 per cent in employment as compared with January and an increase of 12.8 per cent in pay-roll totals.

Employment in February, 1931, was 14.9 per cent lower than in February, 1930, and pay-roll totals were 17.1 per cent lower.

All anthracite mines reported are in Pennsylvania—the Middle Atlantic division. The details for January and February are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **ANTHRACITE MINES** IN JANUARY AND FEBRUARY, 1931

Geographic division	Mines	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Middle Atlantic	**153**	**122,417**	**122,879**	**+0.4**	**$3,477,591**	**$3,923,361**	**+12.8**

Bituminous Coal

EMPLOYMENT in bituminous coal mining decreased 2.6 per cent in February as compared with January while pay-roll totals decreased 6.8 per cent, as shown by reports received from 1,306 mines in which there were in February 214,577 employees, whose combined earnings in one week were $4,094,935.

Employment in February, 1931, was 10.6 per cent lower than in February, 1930, and pay-roll totals were 33.1 per cent lower.

Details for each geographic division except the New England, from which no coal mining is reported, are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **BITUMINOUS COAL MINES** IN JANUARY AND FEBRUARY, 1931

Geographic division	Mines	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Middle Atlantic	392	64,192	62,411	−2.8	$1,220,451	$1,222,908	+0.2
East North Central	170	32,839	32,103	−2.2	713,322	667,210	−6.5
West North Central	47	4,950	4,701	−5.0	101,297	91,582	−9.6
South Atlantic	325	53,905	52,946	−1.8	1,035,020	986,330	−4.7
East South Central	210	42,000	42,065	+0.2	690,775	645,753	−6.5
West South Central	31	2,833	2,187	−22.8	54,285	34,970	−35.6
Mountain	120	17,878	16,551	−7.4	525,179	401,523	−23.5
Pacific	11	1,648	1,613	−2.1	52,868	44,659	−15.5
All divisions	**1,306**	**220,245**	**214,577**	**−2.6**	**4,393,197**	**4,094,935**	**−6.8**

3. Employment in Metalliferous Mining in February, 1931

METALLIFEROUS mines in February showed a decrease in employment of 4.4 per cent, as compared with January, and a decrease of 0.7 per cent in pay-roll totals. The 304 mines covered had in February 41,658 employees whose combined earnings in one week were $1,059,126.

Employment in February, 1931, was 29.3 per cent lower than in February, 1930, and pay-roll totals were 41.0 per cent lower.

Details for each geographic division from which metalliferous mining is reported are shown in the following table.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **METALLIFEROUS MINES** IN JANUARY AND FEBRUARY, 1931

Geographic division	Mines	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Middle Atlantic	7	1,265	1,156	−8.6	$26,265	$23,964	−8.8
East North Central	47	10,611	10,699	+0.8	203,571	216,415	+6.3
West North Central	42	6,354	6,038	−5.0	165,790	158,761	−4.2
East South Central	11	2,507	2,209	−11.9	40,229	43,110	+7.2
West South Central	62	2,574	2,626	+2.0	59,742	59,498	−0.4
Mountain	107	18,076	16,886	−6.6	508,234	494,784	−2.6
Pacific	28	2,209	2,044	−7.5	62,273	62,594	+0.5
All divisions	**304**	**43,596**	**41,658**	**−4.4**	**1,066,104**	**1,059,126**	**−0.7**

4. Employment in Quarrying and Nonmetallic Mining in February, 1931

AN INCREASE of 3.4 per cent was shown in employment and an increase of 8.0 per cent in earnings from January to February, according to reports received from 718 establishments in this industrial group.

These establishments had in February 27,181 employees, whose combined earnings in one week were $591,740.

Employment in February, 1931, was 16.5 per cent lower than in February, 1930, and pay-roll totals were 26.0 per cent lower.

Details for each geographic division are shown in the following table.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **QUARRIES AND NONMETALLIC MINES** IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	95	3,443	3,325	−3.4	$90,190	$88,920	−1.4
Middle Atlantic	118	4,766	5,226	+9.7	104,164	124,981	+20.0
East North Central	203	6,293	6,231	−1.0	142,558	151,820	+6.5
West North Central	77	1,637	1,772	+8.2	32,413	37,742	+16.4
South Atlantic	89	4,545	4,628	+1.8	74,408	76,006	+2.1
East South Central	58	2,567	3,001	+16.9	31,044	38,853	+25.2
West South Central	43	2,044	2,019	−1.2	47,377	46,062	−2.8
Mountain	3	57	51	−10.5	2,235	2,037	+8.9
Pacific	32	941	928	−1.4	23,602	25,319	+7.3
All divisions	**718**	**26,293**	**27,181**	**+3.4**	**547,991**	**591,740**	**+8.0**

5. Employment in Crude Petroleum Producing in February, 1931

REPORTS from 495 crude-petroleum-producing plants in February showed a decrease of 2.2 per cent in employment with a decrease of 2.1 per cent in pay-roll totals, as compared with January figures.

These plants had in February 25,149 employees, whose combined earnings in one week were $883,582.

Employment in February, 1931, was 19.4 per cent lower and pay-roll totals 21.0 per cent lower than in February, 1930.

Details for each geographic division except New England, for which no production is reported, are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL CRUDE PETROLEUM PRODUCING COMPANIES IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Middle Atlantic	41	674	674	(1)	$18,510	$17,807	−3.8
East North Central	5	42	37	−11.9	782	911	+16.5
West North Central	23	79	77	−2.5	1,673	1,574	−5.9
South Atlantic	10	538	470	−12.6	14,227	12,400	−12.8
East South Central	5	257	241	−6.2	5,437	5,478	+0.8
West South Central	319	19,105	18,582	−2.7	654,809	631,899	−3.5
Mountain	18	278	276	−0.7	9,373	9,964	+6.3
Pacific	74	4,748	4,792	+0.9	197,361	203,549	+3.1
All divisions	**495**	**25,721**	**25,149**	**−2.2**	**902,172**	**883,582**	**−2.1**

[1] No change.

6. Employment in Public Utilities in February, 1931

EMPLOYMENT in 12,170 establishments—telephone and telegraph companies, power, light, and water companies, and electric railroads, combined—decreased 1.2 per cent in February as compared with January, and pay-roll totals increased 0.1 per cent. These establishments had in February 700,207 employees whose combined earnings in one week were $21,333,540.

Employment in public utilities was 7.4 per cent lower in February, 1931, than in February, 1930, and pay-roll totals were 5.3 per cent lower.

Data for the three groups into which public utilities have been separated follow.

Telephone and Telegraph

EMPLOYMENT in telephone and telegraph companies was 1.4 per cent lower in February than in January, and earnings were 1.6 per cent lower. The 7,965 establishments reporting had in February 316,335 employees whose combined earnings in one week were $9,083,707.

Employment in February, 1931, was 11.0 per cent below the level of February, 1930, and pay-roll totals were 7.0 per cent lower.

Details for each geographic division are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **TELEPHONE AND TELEGRAPH** ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	720	28,287	27,528	−2.7	$863,996	$851,873	−1.4
Middle Atlantic	1,229	102,875	101,889	−1.0	3,328,007	3,283,285	−1.3
East North Central	1,436	72,653	72,087	−0.8	1,994,783	1,967,384	−1.4
West North Central	1,312	29,586	29,057	−1.8	734,639	723,079	−1.6
South Atlantic	560	20,870	20,477	−1.9	565,664	554,432	−2.0
East South Central	620	10,464	10,293	−1.6	224,716	225,525	+0.4
West South Central	693	17,887	17,543	−1.9	402,319	397,260	−1.3
Mountain	482	7,561	7,231	−4.4	186,638	174,451	−6.5
Pacific	913	30,481	30,230	−0.8	929,467	906,418	−2.5
All divisions	**7,965**	**320,664**	**316,335**	**−1.4**	**9,230,229**	**9,083,707**	**−1.6**

Power, Light, and Water

EMPLOYMENT in power, light, and water plants was 1.4 per cent lower in February than in January, and pay-roll totals were 1.1 per cent higher. The 3,584 establishments reporting had in February 239,316 employees whose combined earnings in one week were $7,617,943.

Employment in February, 1931, was 1.0 per cent lower than in February, 1930, and pay-roll totals were 0.7 per cent lower.

Details for each geographic division are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **POWER, LIGHT, AND WATER** COMPANIES IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	251	20,967	21,016	+0.2	$675,513	$665,347	−1.5
Middle Atlantic	356	62,282	62,044	−0.4	2,029,551	2,022,497	−0.3
East North Central	610	51,471	51,236	−0.5	1,693,160	1,769,310	+4.5
West North Central	414	28,415	27,396	−3.6	812,658	829,946	+2.1
South Atlantic	275	24,474	24,196	−1.1	735,601	731,310	−0.6
East South Central	175	7,068	6,837	−3.3	172,646	168,878	−2.2
West South Central	539	17,487	17,005	−2.8	467,162	474,885	+1.7
Mountain	118	5,989	5,762	−3.8	174,364	176,532	+1.2
Pacific	846	24,653	23,824	−3.4	773,355	779,238	+0.8
All divisions	**3,584**	**242,806**	**239,316**	**−1.4**	**7,534,010**	**7,617,943**	**+1.1**

Electric Railroads

EMPLOYMENT in the operation and maintenance of electric railroads, exclusive of car shops, decreased 0.3 per cent from January to February, and pay-roll totals increased 1.8 per cent. The 621 establishments reporting had in February 144,556 employees whose combined earnings in one week were $4,631,890.

Employment in February, 1931, was 8.9 per cent lower than in February, 1930, and pay-roll totals were 9.0 per cent lower.

Details for each geographic division are shown in Table 3.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN THE OPERATION AND MAINTENANCE OF IDENTICAL **ELECTRIC RAILROADS** IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	49	13,503	13,630	+0.9	$485,580	$496,272	+2.2
Middle Atlantic	160	37,781	37,456	−0.9	1,216,141	1,210,486	−0.5
East North Central	199	43,175	43,100	−0.2	1,380,229	1,415,604	+2.6
West North Central	69	13,552	13,546	−(1)	407,949	426,044	+4.4
South Atlantic	47	11,016	11,092	+0.7	307,933	313,532	+1.8
East South Central	11	3,650	3,547	−2.8	96,296	94,037	−2.3
West South Central	37	5,486	5,386	−1.8	143,925	147,591	+2.5
Mountain	14	2,014	1,968	−2.3	53,320	56,035	+5.1
Pacific	35	14,861	14,831	−0.2	460,385	472,289	+2.6
All divisions	**621**	**145,038**	**144,556**	**−0.3**	**4,551,758**	**4,631,890**	**+1.8**

[1] Less than one-tenth of 1 per cent.

7. Employment in Wholesale and Retail Trade in February, 1931

EMPLOYMENT in 9,553 establishments—wholesale and retail trade combined—showed a drop of 2.9 per cent in February as compared with January, and a drop of 2.1 per cent in pay-roll totals. These establishments had in February 323,594 employees whose combined earnings in one week were $8,255,815.

Wholesale Trade

EMPLOYMENT in wholesale trade alone decreased 1.4 per cent in February as compared with January, while pay-roll totals increased 1.0 per cent. While there were no increases in employment in the nine geographic divisions, six of the divisions showed increases in pay-roll totals.

The 1,940 establishments reporting had in February 60,999 employees and pay-roll totals in one week of $1,923,752.

Employment in February, 1931, was 10.5 per cent lower than in February, 1930, and pay-roll totals were 10.1 per cent lower.

Details for each geographic division are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **WHOLESALE TRADE** ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	166	3,750	3,684	−1.8	$106,161	$102,782	−3.2
Middle Atlantic	307	9,441	9,427	−0.1	316,193	314,952	−0.4
East North Central	291	12,042	11,914	−1.1	371,085	374,348	+0.9
West North Central	261	13,661	13,432	−1.7	397,556	403,443	+1.5
South Atlantic	187	3,802	3,627	−4.6	109,050	110,032	+0.9
East South Central	59	1,640	1,627	−0.8	45,388	46,233	+1.9
West South Central	253	5,778	5,704	−1.3	172,377	171,640	−0.4
Mountain	83	1,813	1,784	−1.6	61,457	64,051	+4.2
Pacific	333	9,924	9,800	−1.2	325,092	336,271	+3.4
All divisions	**1,940**	**61,851**	**60,999**	**−1.4**	**1,904,359**	**1,923,752**	**+1.0**

Retail Trade

EMPLOYMENT in retail trade in February decreased 3.2 per cent and pay-roll totals decreased 3.0 per cent.

The 7,613 establishments from which reports were received had in February 262,595 employees whose combined earnings in one week were $6,332,063.

Employment in February, 1931, was 7.7 per cent lower than February, 1930, and pay-roll totals were 9.7 per cent lower.

Details by geographic divisions are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **RETAIL TRADE** ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	89	12,616	11,818	−6.3	$298,358	$282,790	−5.2
Middle Atlantic	393	78,722	76,736	−2.5	2,094,985	2,011,297	−4.0
East North Central	2,718	75,572	72,858	−3.6	1,834,898	1,786,604	−2.6
West North Central	694	19,756	18,889	−4.4	422,722	408,501	−3.4
South Atlantic	1,045	20,865	20,275	−2.8	463,128	449,338	−3.0
East South Central	363	8,002	7,652	−4.4	155,520	149,574	−3.8
West South Central	271	12,650	12,506	−1.1	261,122	259,654	−0.6
Mountain	200	5,339	4,948	−7.3	114,941	110,232	−4.1
Pacific	1,840	37,827	36,913	−2.4	879,620	874,073	−0.6
All divisions	**7,613**	**271,349**	**262,595**	**−3.2**	**6,525,294**	**6,332,063**	**−3.0**

8. Employment in Hotels in February, 1931

EMPLOYMENT in hotels increased 1.9 per cent in February as compared with January, and pay-roll totals increased 3.0 per cent. The 2,161 hotels reporting in February had 157,116 employees whose earnings in one week were $2,616,234.

Gains in employment were reported in seven of the nine geographic divisions, the South Atlantic, with its winter-resort hotels, leading with an increase of 16.4 per cent, accompanied by an increase in pay-roll totals of 17.9 per cent. The East North Central and West North Central divisions had slight decreases in employment while only one division, the New England, showed any decrease in pay-roll totals.

Employment in February, 1931, was 5.5 per cent less than in February, 1930, and pay-roll totals were 9.7 per cent lower.

Per capita earnings, obtained by dividing the total number of employees into the total amount of pay roll, should not be interpreted as being the entire earnings of hotel employees. The pay-roll totals here reported are cash payments only, with no regard to the value of room or board furnished employees, and of course no satisfactory estimate can be made of additional recompense in the way of tips. The additions to the money wages granted vary greatly, not only among localities but among hotels in one locality and among employees in one hotel. Some employees are furnished board and room, others are given board only for 1, 2, or 3 meals, while the division of tips is made in many ways. Per capita earnings are

further reduced by the considerable amount of part-time employment caused by conventions and banquets or other functions.

The details for each geographic division are shown in the table following:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL HOTELS IN JANUARY AND FEBRUARY, 1931

Geographic division	Hotels	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	100	7,984	7,999	+0.2	$133,144	$131,145	−1.5
Middle Atlantic	390	47,166	47,345	+0.4	834,628	843,758	+1.1
East North Central	409	32,365	31,998	−1.1	554,755	564,628	+1.8
West North Central	298	15,088	15,062	−0.2	213,826	217,677	+1.8
South Atlantic	219	15,099	17,571	+16.4	216,956	255,868	+17.9
East South Central	98	5,805	5,959	+2.7	71,383	73,515	+3.0
West South Central	162	9,658	9,757	+1.0	127,203	128,228	+0.8
Mountain	118	3,654	3,658	+0.1	61,006	61,926	+1.5
Pacific	367	17,346	17,767	+2.4	326,333	339,480	+4.0
All divisions	**2,161**	**154,165**	**157,116**	**+1.9**	**2,539,234**	**2,616,234**	**+3.0**

9. Employment in Canning and Preserving in February, 1931

THE canning and preserving industry showed a decrease of 1.3 per cent in employment and an increase of 5.5 per cent in pay-roll totals in February as compared with January. Three geographic divisions, namely, Middle Atlantic, East South Central, and Pacific, reported increases in both employment and pay-roll totals.

Reports from 792 establishments showed 30,473 employees, whose earnings in one week in February were $545,641. Thirty of the above establishments were operated in January but not in February, while 9 establishments which had been closed in January were again in operation in February; 347 other plants remained closed during both months, hence are not included in this report.

Employment in February, 1931, was 5.7 per cent higher than in February, 1930, but pay-roll totals declined 5.6 per cent over the year interval.

Details by geographic divisions are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL CANNING AND PRESERVING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	58	1,388	1,238	−10.8	$23,843	$22,296	−6.5
Middle Atlantic	80	6,909	6,983	+1.1	135,707	149,104	+9.9
East North Central	222	6,266	6,054	−3.4	113,513	118,168	+4.1
West North Central	43	1,115	1,090	−2.2	20,101	19,379	−3.6
South Atlantic	83	5,148	4,991	−3.0	63,657	54,379	−14.6
East South Central	34	1,513	1,797	+18.8	14,632	16,187	+10.6
West South Central	31	1,851	1,181	−36.2	6,504	6,228	−4.2
Mountain	44	879	825	−6.1	25,427	23,413	−0.1
Pacific	197	5,816	6,314	+8.6	115,619	136,487	+18.0
All divisions	**792**	**30,885**	**30,473**	**−1.3**	**517,003**	**545,641**	**+5.5**

10. Employment in Laundries in February, 1931

EMPLOYMENT in laundries decreased 0.6 per cent in February and pay-roll totals decreased 1.1 per cent, as shown by reports from 321 establishments which had in February 27,884 employees whose earnings in one week were $523,260.

There were increases in employment and pay-roll totals in the South Atlantic and the East South Central geographic divisions, and decreases in the remaining divisions.

As data for February, 1930, are not available no comparison of employment over the 12-month period can be made.

Details for each geographic division appear in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL LAUNDRIES IN JANUARY AND FEBRUARY, 1931

Geographic division	Laundries	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	30	1,647	1,644	−0.2	$33,985	$33,550	−1.3
Middle Atlantic	60	8,605	8,515	−1.0	178,918	176,566	−1.3
East North Central	58	3,688	3,683	−0.1	72,759	72,251	−0.7
West North Central	46	3,500	3,487	−0.4	61,565	60,704	−1.4
South Atlantic	26	3,651	3,697	+1.3	51,539	51,690	+0.3
East South Central	20	1,167	1,173	+0.5	15,626	16,121	+3.2
West South Central	13	887	859	−3.2	12,760	12,755	−(1)
Mountain	18	1,753	1,738	−0.9	32,227	30,625	−5.0
Pacific	50	3,142	3,088	−1.7	69,958	68,998	−1.4
All divisions	**321**	**28,040**	**27,884**	**−0.6**	**529,337**	**523,260**	**−1.1**

[1] Less than one-tenth of 1 per cent.

11. Employment in Dyeing and Cleaning in February, 1931

EMPLOYMENT in dyeing and cleaning establishments decreased 1.7 per cent in February as compared with January, and pay-roll totals decreased 3.3 per cent, as shown by reports from 127 establishments, having in February 4,555 employees, whose combined earnings in one week were $100,152.

As data for February, 1930, are not available, no comparison of employment over the 12-month period can be made.

Details for each geographic division appear in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL DYEING AND CLEANING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1931

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
New England	8	327	318	−2.8	$7,979	$7,889	−1.1
Middle Atlantic	14	633	622	−1.7	15,342	14,189	−7.5
East North Central	21	1,099	1,080	−1.7	24,104	23,887	−0.9
West North Central	25	663	652	−1.7	14,530	14,268	−1.8
South Atlantic	17	586	588	+0.3	10,739	10,560	−1.7
East South Central	6	206	203	−1.5	3,765	3,679	−2.3
West South Central	10	184	183	−0.5	4,363	4,210	−3.5
Mountain	15	224	220	−1.8	5,457	5,554	+1.8
Pacific	11	713	689	−3.4	17,335	15,916	−8.2
All divisions	**127**	**4,635**	**4,555**	**−1.7**	**103,614**	**100,152**	**−3.3**

Indexes of Employment and Pay-Roll Totals—Mining, Quarrying, Crude Petroleum Producing, Public Utilities, Trade, Hotels, and Canning

THE following table shows the index numbers of employment and pay-roll totals for anthracite, bituminous coal, and metalliferous mining, quarrying, crude petroleum producing, telephone and telegraph, power, light, and water, electric railroads, wholesale and retail trade, hotels, and canning and preserving, by months, from January, 1930, to February, 1931, with the monthly average for 1929 as 100.

INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS, JANUARY, 1930, TO FEBRUARY, 1931—MINING, QUARRYING, CRUDE PETROLEUM PRODUCING, PUBLIC UTILITIES, TRADE, HOTELS, AND CANNING

[Monthly average, 1929=100]

Year and month	Anthracite mining		Bituminous coal mining		Metalliferous mining		Quarrying and nonmetallic mining		Crude petroleum producing		Telephone and telegraph		Power light, and water		Operation and maintenance of electric railroads [1]		Wholesale trade		Retail trade		Hotels		Canning and preserving	
	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals	Employment	Pay-roll totals
1930																								
January	102.1	105.8	102.5	101.4	95.7	92.7	79.6	71.9	92.7	94.0	101.6	105.1	99.6	99.7	97.1	97.8	100.0	100.0	98.9	99.7	100.4	100.3	46.1	50.3
February	106.9	121.5	102.4	102.1	92.3	92.5	79.8	73.5	90.8	88.6	100.2	101.9	98.8	100.4	95.1	95.7	98.5	98.3	94.4	96.0	102.4	103.8	45.7	51.5
March	82.6	78.5	98.6	86.4	90.9	90.8	83.0	80.0	89.3	91.3	99.4	105.8	99.7	102.1	94.4	95.4	97.7	99.7	93.9	95.5	102.4	104.4	49.7	50.8
April	84.1	75.0	94.4	81.7	89.3	88.3	87.4	85.4	86.8	86.6	98.9	103.4	100.7	102.6	95.2	97.1	97.3	97.9	97.3	97.5	100.1	100.3	74.8	72.6
May	93.8	98.8	90.4	77.5	87.5	85.6	90.8	90.2	89.8	85.4	99.7	103.2	103.4	104.5	95.2	96.0	96.8	97.4	96.7	97.3	98.0	98.4	65.7	66.9
June	90.8	94.3	88.4	75.6	84.6	81.6	90.3	90.9	90.2	87.1	99.8	103.4	104.6	107.8	94.8	97.0	96.5	98.6	93.9	96.8	98.0	98.1	83.0	81.5
July	91.6	84.0	88.0	68.9	80.5	71.9	89.9	75.5	89.9	88.5	100.0	106.6	105.9	106.7	95.3	95.6	96.0	96.0	89.0	91.7	101.3	99.8	126.3	112.7
August	80.2	78.8	89.2	71.1	79.0	71.0	89.3	85.8	87.7	86.0	98.8	102.5	106.4	106.6	92.9	92.1	95.0	93.6	85.6	87.6	101.5	98.6	185.7	172.0
September	93.8	91.6	90.5	74.9	78.1	69.9	87.7	82.5	85.0	84.0	96.8	102.2	105.2	106:1	91.8	90.5	94.8	93.6	92.0	92.4	100.1	97.1	246.6	214.8
October	99.0	117.2	91.8	79.4	77.2	68.6	84.7	79.3	85.2	82.6	94.5	100.9	104.8	105.6	91.0	88.9	94.2	92.9	95.5	95.1	97.5	95.5	164.7	140.0
November	97.2	98.0	92.5	79.1	72.8	63.4	78.3	66.8	83.6	80.0	93.0	97.9	103.4	103.7	89.3	87.7	92.6	91.0	98.4	96.8	95.2	93.6	96.7	82.9
December	99.1	100.0	92.5	77.7	70.1	59.9	70.2	59.9	77.4	77.2	91.6	101.3	103.2	106.3	88.8	88.6	92.0	91.3	115.1	107.7	93.5	91.5	61.6	57.4
Average	**93.4**	**95.3**	**93.4**	**81.3**	**83.2**	**78.0**	**84.3**	**79.3**	**87.4**	**85.9**	**97.9**	**102.9**	**103.0**	**104.3**	**93.4**	**93.5**	**96.0**	**95.9**	**95.9**	**96.2**	**99.2**	**98.5**	**103.9**	**96.1**
1931																								
January	90.6	89.3	93.9	73.3	68.3	55.0	64.4	50.4	74.8	71.5	90.5	96.3	99.2	98.6	86.9	85.6	89.5	87.5	90.0	89.4	[2] 95.0	[2] 91.0	48.9	46.1
February	91.0	100.7	91.5	68.3	65.3	54.6	66.6	54.4	73.2	70.0	89.2	94.8	97.8	99.7	86.6	87.1	88.2	88.4	87.1	86.7	96.8	93.7	48.3	48.6

[1] Not including electric-railroad car building and repairing; see vehicles group, manufacturing industries, p. 206, et seq.
[2] Revised.

Employment in Building Construction in February, 1931

THE Bureau of Labor Statistics here presents reports as to employment and pay rolls from establishments engaged in building construction, in Washington, Providence, and St. Louis, and their suburbs.

In addition, figures collected by the Illinois Bureau of Statistics and Research, Maryland Commission of Labor and Statistics, Massachusetts Department of Labor and Industries, and the Industrial Commission of Wisconsin are presented.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN BUILDING CONSTRUCTION, JANUARY AND FEBRUARY, 1931

Locality	Number of establishments	Employees		Per cent of change	Pay roll (one week)		Per cent of change
		January, 1931	February, 1931		January, 1931	February, 1931	
Washington, D. C.	440	6,635	6,334	−4.5	$214,115	$196,067	−8.4
Providence, R. I.	229	2,425	1,991	−17.9	71,416	52,038	−27.1
St. Louis, Mo.	464	4,003	3,745	−6.4	134,027	125,973	−6.0
Illinois	66	1,414	1,514	+7.1	48,718	51,761	+6.2
Maryland	73	1,334	1,138	−14.7	32,604	29,178	−10.5
Massachusetts	352	6,444	5,969	−7.4	240,216	219,008	−8.8
Wisconsin	75	2,601	2,169	−16.6	71,373	57,462	−19.5
Total	1,699	24,856	22,860	−8.0	812,469	731,487	−10.0

The employees included in these reports are such a small part of the total number of employees engaged in building construction in the United States that building construction figures are not yet included in the summary tables.

Employment on Class I Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to January, 1931, on Class I railroads—that is, all roads having operating revenues of $1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the monthly average for 1926 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON CLASS I STEAM RAILROADS IN THE UNITED STATES JANUARY, 1923, TO JANUARY, 1931

[Monthly average, 1926=100]

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931
January	98.3	96.9	95.6	95.8	95.5	89.3	88.2	86.3	73.7
February	98.6	97.0	95.4	96.0	95.3	89.0	88.9	85.4	.....
March	100.5	97.4	95.2	96.7	95.8	89.9	90.1	85.5	.....
April	102.0	98.9	96.6	98.9	97.4	91.7	92.2	87.0	.....
May	105.0	99.2	97.8	100.2	99.4	94.5	94.9	88.6	.....
June	107.1	98.0	98.6	101.6	100.9	95.9	96.1	86.5	.....
July	108.2	98.1	99.4	102.9	101.0	95.6	96.6	84.7	.....
August	109.4	99.0	99.7	102.7	99.5	95.7	97.4	83.7	.....
September	107.8	99.7	99.9	102.8	99.1	95.3	96.8	82.2	.....
October	107.3	100.8	100.7	103.4	98.9	95.3	96.9	80.4	.....
November	105.2	99.0	99.1	101.2	95.7	92.9	93.0	77.0	.....
December	99.4	96.0	97.1	98.2	91.9	89.7	88.8	74.9	.....
Average	**104.1**	**98.3**	**97.9**	**100.0**	**97.5**	**92.9**	**93.3**	**83.5**	.....

Table 2 shows the total number of employees on the 15th day each of January and December, 1930, and January, 1931, and pay-roll totals for the entire months.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES—JANUARY AND DECEMBER, 1930, AND JANUARY, 1931

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

Occupation	Number of employees at middle of month			Total earnings		
	January, 1930	December, 1930	January, 1931	January, 1930	December, 1930	January, 1931
Professional, clerical, and general	**265,857**	**239,506**	**235,591**	**$39,395,737**	**$35,480,420**	**$34,973,691**
Clerks	149,212	131,874	128,984	20,973,488	18,416,619	18,058,607
Stenographers and typists	24,558	22,248	22,087	3,254,434	2,938,400	2,914,072
Maintenance of way and structures	**331,292**	**274,479**	**267,432**	**32,263,102**	**25,481,474**	**25,103,747**
Laborers, extra gang and work train	38,971	24,148	23,521	2,745,655	1,627,868	1,617,582
Laborers, track and roadway section	168,235	141,546	138,058	12,320,188	9,343,103	9,293,881
Maintenance of equipment and stores	**439,317**	**375,160**	**373,867**	**62,231,641**	**47,968,887**	**48,101,279**
Carmen	93,719	78,647	77,931	15,111,916	11,217,057	11,098,393
Machinists	53,434	48,077	48,415	9,247,500	7,215,944	7,355,065
Skilled trades helpers	96,883	82,391	82,082	11,855,902	8,821,751	8,867,905
Laborers (shops, engine houses, power plants, and stores)	36,796	31,558	30,945	3,675,724	2,998,569	2,933,231
Common laborers (shops, engine houses, power plants, and stores)	50,168	40,251	40,213	4,136,880	2,990,203	3,024,305
Transportation, other than train, engine, and yard	**186,578**	**168,939**	**164,623**	**23,982,703**	**21,537,554**	**20,990,452**
Station agents	29,050	28,298	28,135	4,731,270	4,547,678	4,524,263
Telegraphers, telephoners, and towermen	22,774	20,737	20,557	3,624,983	3,292,425	3,252,937
Truckers (stations, warehouses, and platforms)	29,380	25,151	23,060	2,810,322	2,259,704	2,094,385
Crossing and bridge flagmen and gatemen	20,116	19,226	19,156	1,568,308	1,502,394	1,489,237
Transportation (yardmasters, switch tenders, and hostlers)	**21,428**	**19,027**	**18,799**	**4,284,856**	**3,746,253**	**3,670,711**
Transportation, train and engine	**299,588**	**263,359**	**257,505**	**63,045,259**	**51,181,921**	**50,068,195**
Road conductors	33,626	29,707	29,133	8,391,578	6,939,799	6,822,757
Road brakemen and flagmen	65,564	57,720	56,491	11,857,868	9,505,914	9,287,511
Yard brakemen and yard helpers	51,103	44,611	43,605	9,264,949	7,443,911	7,204,577
Road engineers and motormen	40,194	35,344	34,535	11,360,607	9,242,135	9,117,246
Road firemen and helpers	40,809	36,289	35,605	8,338,512	6,725,785	6,614,068
All employees	**1,544,060**	**1,340,470**	**1,317,817**	**225,203,298**	**185,396,509**	**182,908,075**

Changes in Employment and Pay Rolls in Various States

THE following data as to changes in employment and pay rolls have been compiled from reports received from the various State labor offices:

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES

Monthly period

State, and industry group	Per cent of change, January to February, 1931	
	Employment	Pay roll
Arkansas		
Auto dealers, garages	−6.5	−6.7
Auto bodies, wood parts	−12.6	−28.1
Bakeries and cafés	−4.4	−11.2
Beverages	+18.2	−4.9
Brick and tile	−7.4	−12.9
Candy and confections	−6.6	−15.1
Cooperage, heading, veneer	−2.3	−9.5
Cotton compresses, gins, and products	−36.2	−35.9
Coal mines	−33.0	−47.1
Furniture manufacture	+2.8	+6.6
Flour, grain, feed, fertilizer	+10.5	+2.8
Glass factories	+5.5	+12.1
Handles, hubs, spokes	−7.0	−14.6
Hotels	−5.4	−10.2
Laundries	+2.1	+1.5
Lumber mills	−2.3	−4.9
Machinery, foundries, parts, smelters	−4.8	−8.9
Newspapers and printers	−1.1	−2.5
Packing houses	−1.5	−1.7
Petroleum products	+5.6	+2.0
Sand, gravel, stone	+8.6	+7.9
Textile mills, garments	+4.4	+12.2
Public utilities	+1.1	+2.0
Wholesale and retail	−1.9	−1.4
Miscellaneous	+2.7	+1.7
	December, 1930, to January, 1931	
California		
Stone, clay, and glass products	+3.0	−8.5
Metals, machinery, and conveyances	−1.6	−2.0
Wood manufactures	−11.2	−16.3
Leather and rubber goods	+6.3	+8.9
Petroleum producing and refining	−2.1	−3.0
Printing and paper goods	−2.4	−6.4
Textiles	+1.0	−3.9
Clothing, millinery, and laundering	+1.1	+2.3
Foods, beverages, and tobacco	−9.8	−6.1
Motion pictures	−.5	+5.3
Miscellaneous	−3.2	−4.6
All industries	−3.9	−3.9
Illinois		
Stone, clay, and glass products	−10.1	−15.7
Metals, machinery, and conveyances	−1.9	−5.3

State, and industry group	Per cent of change, December, 1930, to January, 1931	
	Employment	Pay roll
Illinois—Continued		
Wood products	−7.0	−16.8
Furs and leather goods	+1.0	+.4
Chemicals, oils, paints, etc	+4.6	−1.6
Printing and paper goods	+.2	−4.8
Textiles	−6.9	−6.5
Clothing and millinery	+4.1	+10.7
Food, beverages, and tobacco	−1.5	+.0
Miscellaneous	−4.5	−10.6
All manufacturing	−1.5	−4.2
Trade, wholesale and retail	−10.0	−7.9
Services	+.1	−.1
Public utilities	−2.4	+.2
Coal mining	+.8	−5.7
Building and contracting	−26.3	−25.7
All nonmanufacturing	−3.7	−2.2
All industries	−2.3	−3.4
	January to February, 1931	
Iowa		
Food and kindred products	−2.0	
Textiles	+2.1	
Iron and steel works	+4.4	
Lumber products	+3.1	
Leather products	−8.8	
Paper products, printing, and publishing	−2.4	
Patent medicines, chemicals, and compounds	−6.0	
Stone and clay products	+1.8	
Tobacco and cigars	−3.6	
Railway-car shops	+9.7	
Various industries	−1.1	
All industries	+.7	
Maryland		
Food products	+.8	−.1
Textiles	+6.2	+9.6
Iron and steel, and their products	+.8	+8.8
Lumber and its products	+.8	−.6
Leather and its products	+3.9	+9.8
Rubber tires	−.8	+2.3
Paper and printing	+.1	−.6
Chemicals and allied products	+6.2	+5.0

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State, and industry group	Per cent of change, January to February, 1931	
	Employment	Pay roll
Maryland—Continued		
Stone, clay, and glass products	+10.1	+1.1
Metal products other than iron and steel	−2.6	+1.1
Tobacco products	−.9	−4.9
Transportation equipment	+17.4	+27.0
Car building and repairing	−.2	−.6
Miscellaneous	−5.1	−1.5
All manufacturing	+2.5	+6.5
Retail establishments	−2.8	−6.7
Wholesale establishments	−1.2	−.9
Public utilities	−1.7	−14.1
Coal mines	+.7	−13.5
Hotels	−7.5	+6.6
Quarries	+8.1	+11.1
Building construction	−14.7	−10.5

State, and industry group	Per cent of change, December, 1930, to January, 1931	
	Employment	Pay roll
Michigan		
Paper and printing	−0.9	−1.4
Chemicals and allied products	−2.9	−6.5
Stone, clay, and glass products	−15.2	−19.5
Metal products, not iron and steel	−19.0	−9.8
Iron and steel products	+2.7	+2.6
Lumber and its products	−3.6	−11.1
Leather and its products	−4.4	−8.6
Food and kindred products	−6.7	−.1
Textiles and their products	−3.2	−19.7
Tobacco products	−32.9	−29.2
Vehicles for land transportation	−1.2	−44.2
Miscellaneous	−41.9	−42.0
All industries	−2.9	−34.1

Employment—index numbers (1925–1927 = 100)

State, and industry group	December, 1930	January, 1931
Massachusetts		
Boot and shoe cut stock and findings	73.6	76.3
Boots and shoes	53.9	65.9
Bread and other bakery products	102.9	100.6
Clothing, men's	47.7	56.0
Clothing, women's	98.5	91.3
Confectionery	100.2	95.4
Cotton goods	50.8	50.4
Dyeing and finishing textiles	91.0	89.6
Electrical machinery, apparatus, and supplies	74.3	71.0
Foundry and machine-shop products	92.4	88.6
Furniture	82.1	72.9
Hosiery and knit goods	63.7	59.5
Leather, tanned, curried, and finished	87.1	90.1
Paper and wood pulp	83.4	82.1
Printing and publishing	101.4	100.8
Rubber footwear	81.2	78.4
Rubber goods, tires, and tubes	63.9	61.5
Silk goods	75.2	74.7
Textile machinery and parts	67.2	63.9
Woolen and worsted goods	57.4	56.5
All industries	69.9	69.4

State, and industry group	Per cent of change, December, 1930, to January, 1931	
	Employment	Pay roll
New Jersey		
Food and kindred products	−3.8	−2.6
Textiles and their products	−1.4	−7.3
Iron and steel and their products	−3.5	−7.2
Lumber and its products	−6.9	−19.1
Leather and its products	+5.6	+1.0
Tobacco products	−4.2	−6.1
Paper and printing	−3.7	−5.8
Chemical and allied products	−2.1	−.7
Stone, clay, and glass products	−3.7	−8.5
Metal products other than iron and steel	−.8	−6.2
Vehicles for land transportation	−14.5	−14.2
Miscellaneous	−14.3	−10.2
All industries	−5.2	−7.0

State, and industry group	January to February, 1931	
	Employment	Pay roll
New York		
Stone, clay, and glass	−2.1	−6.3
Miscellaneous stone and minerals	−6.0	−13.4
Lime, cement, and plaster	−5.8	−6.1
Brick, tile, and pottery	−.3	−4.2
Glass	+2.4	+1.4

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State, and industry group	Per cent of change, January to February, 1931	
	Employment	Pay roll
New York—Continued		
Metals and machinery	+0.2	+1.5
Silver and jewelry	−2.1	+16.9
Brass, copper, and aluminum	+.5	+1.8
Iron and steel	+6.3	+14.0
Structural and architectural iron	−3.2	−6.3
Sheet metal and hardware	+.6	−.1
Firearms, tools, and cutlery	−1.1	−4.5
Cooking, heating, and ventilating apparatus	+2.7	−2.1
Machinery, including electrical apparatus	(1)	−.8
Automobiles, carriages and airplanes	+2.1	+12.1
Railroad equipment and repair	−.4	+2.4
Boat and ship building	−8.3	−17.5
Instruments and appliances	−1.8	−.9
Wood manufactures	+.3	−2.5
Saw and planing mills	+4.9	+4.8
Furniture and cabinetwork	−.6	−.4
Pianos and other musical instruments	−3.7	−13.7
Miscellaneous wood	+.9	−3.9
Furs, leather, and rubber goods	+1.8	+8.6
Leather	−5.2	−8.4
Furs and fur goods	+7.0	+11.3
Shoes	−.6	+10.7
Other leather and canvas goods	+14.2	+5.8
Rubber and gutta percha	+2.9	+5.9
Pearl, horn, bone, etc.	+3.5	+2.4
Chemicals, oils, paints, etc	−1.2	−2.0
Drugs and chemicals	−.9	−3.0
Paints and colors	−3.1	−5.5
Oil products	−1.4	−3.8
Miscellaneous chemicals	−.9	+.9
Paper	−.3	+.4
Printing and paper goods	−.6	−1.4
Paper boxes and tubes	+2.3	+3.2
Miscellaneous paper goods	−2.4	+2.1
Printing and bookmaking	−.6	−2.1
Textiles	+4.5	+9.4
Silk and silk goods	−7.7	−4.7
Wool manufactures	+10.8	+27.6
Cotton goods	−6.1	−3.4
Knit goods (excluding silk)	+13.6	+14.2
Other textiles	+.6	−1.3
Clothing and millinery	+5.4	+15.6
Men's clothing	+8.6	+16.4
Men's furnishings	+.7	+11.7
New York—Continued		
Clothing and millinery—Continued.		
Women's clothing	+7.6	+22.7
Women's underwear	+7.2	+9.9
Women's headwear	+10.9	+18.1
Miscellaneous sewing	−2.2	+1.1
Laundering and cleaning	−2.7	−2.3
Food and tobacco	+4.2	+.5
Flour, feed, and cereal	−.4	−6.8
Canning and preserving	−3.6	−5.3
Other groceries	+1.3	−.4
Meat and dairy products	−2.9	−4.8
Bakery products	−.2	+2.0
Candy	+7.3	+5.1
Beverages	+1.0	+1.9
Tobacco	+56.0	+11.2
Water, light, and power	+.3	−.3
All industries	+1.5	+3.2
Oklahoma		
Cottonseed-oil mills	−3.2	−3.0
Food production:		
Bakeries	+2.9	+4.6
Confections	−13.5	−20.0
Creameries and dairies	+2.5	+1.0
Flour mills	.0	+.5
Ice and ice cream	+2.4	+2.5
Meat and poultry	−4.1	+4.3
Lead and zinc:		
Mines and mills	+6.0	+1.2
Smelters	+4.4	−.0
Metals and machinery:		
Auto repairs, etc	−1.9	−12.7
Machine shops and foundries	+1.0	−4.7
Tank construction and erection	−5.1	−11.8
Oil industry:		
Producing and gasoline manufacture	+1.6	+.6
Refineries	+.3	+2.8
Printing: Job work	−4.8	−1.0
Public utilities:		
Steam-railway shops	−4.2	−4.8
Street railways	−5.1	−3.6
Water, light, and power	−8.8	−23.9
Stone, clay, and glass:		
Brick and tile	−31.4	−19.2
Cement and plaster	−7.4	+6.8
Crushed stone	−1.3	−.3
Glass manufacture	+7.5	+12.4
Textiles and cleaning:		
Textile manufacture	+5.7	+18.9
Laundries, etc	−4.5	−2.9
Woodworking:		
Sawmills	−10.2	−2.6
Millwork, etc	−2.2	−3.4
All industries	−1.3	−2.5

[1] Change of less than one-tenth of 1 per cent.

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State, and industry group	Index numbers (1923-1925=100)—employment	
	January, 1931	February, 1931
Pennsylvania		
Metal products	76.3	76.6
Transportation equipment	57.2	[1] 53.2
Textile products	86.9	91.1
Foods and tobacco	97.5	105.0
Stone, clay, and glass products	56.9	58.3
Lumber products	49.0	57.0
Chemical products	86.0	88.4
Leather and rubber products	90.6	94.0
Paper and printing	94.9	94.4
All manufacturing	78.7	80.2
	Pay roll	
Metal products	62.7	63.3
Transportation equipment	41.5	[1] 40.5
Textile products	70.5	82.2
Foods and tobacco	89.9	95.2
Stone, clay, and glass products	32.3	44.4
Lumber products	31.1	47.5
Chemical products	83.2	89.3
Leather and rubber products	83.1	88.3
Paper and printing	96.0	99.7
All manufacturing	65.3	68.3

State, and industry group	Per cent of change, January to February, 1931	
	Employment	Pay roll
Texas		
Auto and body works	+4.2	
Bakeries	+.1	
Confectioneries	−4.7	
Pure food products	+5.8	
Ice cream factories	+11.2	
Flour mills	−5.8	
Ice factories	+1.9	
Meat packing and slaughtering	−4.5	
Cotton-oil mills	+5.2	
Cotton compresses	−12.7	
Men's clothing manufacture	+1.0	
Women's clothing manufacture	+14.8	
Brick, tile, and terra cotta	−9.6	
Foundries and machine shops	−1.7	
Structural-iron works	−8.6	
Railroad car shops	+3.2	
Electric-railway car shops	−1.8	
Petroleum refining	−1.4	
Sawmills	+1.1	
Lumber mills	+.4	
Furniture manufacture	+10.9	
Paper-box manufacture	−0.4	
Cotton-textile mills	+5.2	
Cement plants	+9.8	
Commercial printing	−1.7	
Newspaper publishing	−1.3	
Quarrying	−10.6	
Public utilities	−1.5	
Retail stores	+.7	
Wholesale stores	−1.4	
Hotels	+.3	
Miscellaneous	+3.6	
All industries	−.4	

State, and industry group	December, 1930, to January, 1931	
	Employment	Pay roll
Wisconsin		
Manual		
Logging	−.1	+1.2
Mining:		
Lead and zinc	−4.8	−5.3
Iron	−.5	−5.6
Stone crushing and quarrying	−13.3	−5.8
Manufacturing:		
Stone and allied industries	−7.4	−9.0
Metal	−2.0	−4.1
Wood	+6.8	−2.8
Rubber	−4.9	−3.9
Leather	−2.0	−12.3
Paper	−1.3	−3.0
Textiles	−15.4	−24.6
Foods	−2.6	−5.8
Printing and publishing	−.4	−4.2
Chemicals (including soap, glue, and explosives)	−8.3	−7.1
All manufacturing	−1.8	−6.5
Construction:		
Building	−15.0	−10.2
Highway	−35.2	−38.9
Railroad	−14.7	−18.2
Marine dredging, sewer digging	−30.0	−43.5
Communication:		
Steam railways	−7.5	−9.0
Electric railways	−5.3	−7.1
Express, telephone, and telegraph	−.7	−8.6
Light and power	−3.9	−6.7
Wholesale trade	−7.1	−13.4
Hotels and restaurants	−5.0	
Laundering and dyeing	−1.3	−9.3
Nonmanual		
Manufacturing, mines, and quarries	−1.7	−1.6
Construction	−3.0	−4.2
Communication	−1.5	−6.5
Wholesale trade	−2.1	−.9
Retail trade—sales force only	−22.1	−17.9
Miscellaneous professional services	+1.1	−19.5

[1] Preliminary figures.

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Yearly period

State, and industry group	Per cent of change, January, 1930, to January, 1931	
	Employment	Pay roll
California		
Stone, clay, and glass products	−28.7	−34.9
Metals, machinery, and conveyances	−22.1	−29.9
Wood manufactures	−17.5	−23.7
Leather and rubber goods	−23.4	−29.3
Chemicals, oils, paints, etc	−33.8	−37.2
Printing and paper goods	−8.2	−10.6
Textiles	−7.6	−16.7
Clothing, millinery, and laundering	−11.5	−16.7
Foods, beverages, and tobacco	−8.4	−8.1
Miscellaneous [3]	−7.5	−.2
All industries	−20.3	−25.3
Public utilities	−8.4	−10.2
Wholesale and retail	−6.4	−13.0

State, and industry group	Employment—index numbers (1925–1927=100)	
	January, 1930	January, 1931
Illinois		
Stone, clay, and glass products	76.3	61.0
Metals, machinery, and conveyances	107.2	78.0
Wood products	65.2	50.7
Furs and leather goods	94.5	79.9
Chemicals, oils, paints, etc	95.3	85.1
Printing and paper goods	111.8	99.5
Textiles	89.9	78.3
Clothing and millinery	85.5	72.9
Foods, beverages, and tobacco	90.1	78.3
All manufacturing	97.8	77.0
Trade, wholesale and retail	81.7	68.9
Public utilities	105.2	95.9
Coal mining	77.2	88.3
Building and contracting	53.9	31.4
All industries	97.0	80.4
Massachusetts		
Boot and shoe cut stock and findings	104.5	76.3
Boots and shoes	82.2	65.9
Bread and other bakery products	106.2	100.6
Clothing, men's	65.7	56.0
Clothing, women's	96.6	91.3
Confectionery	90.9	95.4
Cotton goods	69.5	50.4
Dyeing and finishing textiles	95.0	89.6
Electrical machinery, apparatus, and supplies	89.7	71.0
Foundry and machine-shop products	104.8	88.6

State, and industry group	Employment—index numbers (1925–1927=100)	
	January, 1930	January, 1931
Massachusetts—Con.		
Furniture	98.3	72.9
Hosiery and knit goods	81.9	59.5
Leather, tanned, curried, and finished	107.4	90.1
Paper and wood pulp	94.0	82.1
Printing and publishing	107.5	100.8
Rubber footwear	94.7	78.4
Rubber goods, tires, and tubes	88.4	61.5
Silk goods	95.2	74.7
Textile machinery and parts	89.1	63.9
Woolen and worsted goods	69.2	56.5
All industries	85.9	69.4

State, and industry group	Per cent of change, January, 1930, to January, 1931	
	Employment	Pay roll
Michigan		
Paper and printing	−11.5	−16.9
Chemicals and allied products	−4.7	−17.9
Stone, clay, and glass products	−30.1	−44.5
Metal products, not iron and steel	−24.3	−36.4
Iron and steel products	−24.6	−34.6
Lumber and its products	−33.0	−45.4
Leather and its products	−4.9	−18.5
Food and kindred products	−13.2	−18.0
Textiles and their products	−16.8	−20.6
Tobacco products	+8.2	+5.6
Vehicles for land transportation	−21.4	−53.3
Miscellaneous	−36.2	−37.8
All industries	−21.4	−46.2
New Jersey		
Food and kindred products	−17.6	−16.6
Textiles and their products	−12.0	−20.2
Iron and steel and their products	−25.7	−33.0
Lumber and its products	−16.3	−24.7
Leather and its products	−15.5	−25.1
Tobacco products	−11.3	−20.7
Paper and printing	−6.2	−6.8
Chemicals and allied products	−12.2	−16.4
Stone, clay, and glass products	−12.7	−23.6
Metal products, other than iron and steel	−26.4	−35.1
Vehicles for land transportation	−4.2	−15.2
Miscellaneous	+17.7	+2.0
All industries	−13.4	−21.2

[3] Includes motion pictures

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Yearly period—Continued

State, and industry group	Per cent of change, February, 1930, to February, 1931	
	Employment	Pay roll
New York		
Stone, clay and glass	−13.9	−22.0
Miscellaneous stone and minerals	−16.6	−25.3
Lime, cement, and plaster	−3.8	−10.3
Brick, tile, and pottery	−20.0	−31.5
Glass	−11.3	−16.7
Metals and machinery	−22.4	−30.2
Silver and jewelry	−22.8	−34.6
Brass, copper, and aluminum	−15.7	−24.7
Iron and steel	−20.4	−26.1
Structural and architectural iron	−24.6	−33.4
Sheet metal and hardware	−14.6	−21.5
Firearms, tools, and cutlery	−18.4	−28.9
Cooking, heating, and ventilating apparatus	−17.5	−31.7
Machinery, including electrical apparatus	−23.1	−29.2
Automobiles, carriages, and airplanes	−37.4	−45.5
Railroad equipment and repair	−22.4	−30.5
Boat and ship building	−19.8	−29.3
Instruments and appliances	−17.4	−26.4
Wood manufactures	−14.4	−24.8
Saw and planing mills	−11.3	−14.9
Furniture and cabinetwork	−20.9	−29.6
Pianos and other musical instruments	−6.9	−28.8
Miscellaneous wood	−11.1	−21.8
Furs, leather, and rubber goods	−11.0	−18.3
Leather	−25.8	−30.3
Furs and fur goods	+2.5	+6.8
Shoes	−8.6	−15.2
Other leather and canvas goods	−13.3	−27.8
Rubber and gutta percha	−21.6	−29.5
Pearl, horn, bone, etc.	−19.4	−28.2
Chemicals, oils, paints, etc	−7.3	−11.7
Drugs and chemicals	−2.0	−9.4
Paints and colors	−16.5	−19.8
Oil products	−9.4	−11.0
Miscellaneous chemicals	−6.8	−12.1
Paper	−16.8	−27.4
Printing and paper goods	−8.6	−10.8
Paper boxes and tubes	−11.6	−19.1
Miscellaneous paper goods	−11.3	−10.0
Printing and bookmaking	−7.9	−10.2
Textiles	−23.7	−27.6
Silk and silk goods	−22.5	−25.7
Wool manufactures	−20.8	−19.8
Cotton goods	−29.2	−33.3
Knit goods (excluding silk)	−21.4	−28.6
Other textiles	−28.0	−34.8
Clothing and millinery	−13.2	−17.2
Men's clothing	−13.9	−23.9
Men's furnishings	−25.0	−27.7
Women's clothing	−9.4	−10.3
Women's underwear	−9.6	−16.0
Women's headwear	−10.6	−16.9
Miscellaneous sewing	−17.4	−22.4
Laundering and cleaning	−3.2	−6.2
Food and tobacco	−10.8	−14.3
Flour, feed, and cereals	−12.1	−17.2
Canning and preserving	−7.2	−16.4
Other groceries	−17.9	−17.0
Meat and dairy products	−9.8	−13.9
Bakery products	−11.6	−13.0
Candy	−6.4	−14.8
Beverages	−3.9	−7.2
Tobacco	−5.3	−14.7
Water, light, and power	−1.2	−3.1
All industries	−16.4	−22.1
Oklahoma		
Cottonseed-oil mills	−7.3	−25.5
Food production:		
Bakeries	−11.5	−19.8
Confections	−3.7	−30.2
Creameries and dairies	+21.6	+18.8
Flour mills	−14.9	−29.4
Ice and ice cream	−5.2	−2.5
Meat and poultry	−8.3	−15.2
Lead and zinc:		
Mines and mills	−37.1	−46.1
Smelters	−1.3	−39.5
Metals and machinery:		
Auto repairs, etc	−15.7	−44.5
Machine shops and foundries	−40.1	−58.6
Tank construction and erection	−35.3	−44.9
Oil industry:		
Producing and gasoline manufacture	−26.4	−26.2
Refineries	+1.6	−.4
Printing: Job work	−2.5	−9.5
Public utilities:		
Steam-railway shops	−34.8	−36.8
Street railways	−15.5	−19.8
Water, light, and power	−17.1	−28.4
Stone, clay, and glass:		
Brick and tile	−43.6	−40.2
Cement and plaster	−12.5	−19.1
Crushed stone	+5.2	+38.3
Glass manufacture	+3.4	+4.9
Textiles and cleaning:		
Textile manufacture	+38.6	+23.5
Laundries, etc	−5.4	−10.9
Woodworking:		
Sawmills	−39.1	−46.0
Millwork, etc	−21.7	−39.3
All industries	−14.6	−22.3

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Yearly period—Continued

State, and industry group	Index numbers (1923–1925=100) — employment	
	February, 1930	February, 1931
Pennsylvania		
Metal products	96.4	76.6
Transportation equipment	84.0	[2] 53.2
Textile products	105.5	91.1
Foods and tobacco	100.1	105.0
Stone, clay, and glass products	63.2	58.3
Lumber products	81.1	57.0
Chemical products	98.3	88.4
Leather and rubber products	100.1	94.0
Paper and printing	99.5	94.4
All manufacturing	97.0	80.2
	Pay roll	
Metal products	100.3	63.3
Transportation equipment	86.6	[2] 40.5
Textile products	109.0	82.2
Foods and tobacco	103.7	95.2
Stone, clay, and glass products	82.1	44.4
Lumber products	87.2	47.5
Chemical products	104.3	89.3
Leather and rubber products	102.6	88.3
Paper and printing	113.1	99.7
All manufacturing	99.4	68.3

State, and industry group	Per cent of change, February, 1930, to February, 1931	
	Employment	Pay roll
Texas		
Auto and body works	−24.4	
Bakeries	−17.5	
Confectioneries	+3.8	
Pure food products	−6.6	
Ice cream factories	−4.3	
Flour mills	−18.3	
Ice factories	−16.7	
Meat packing and slaughtering	−14.2	
Cotton-oil mills	−33.0	
Cotton compresses	+2.8	
Men's clothing manufacture	−17.8	
Women's clothing manufacture	+2.8	
Brick, tile, and terra cotta	−33.9	
Foundries and machine shops	−36.4	
Structural-iron works	−27.8	
Railroad car shops	−25.1	
Electric-railway car shops	−12.9	
Petroleum refining	−22.6	
Sawmills	−20.5	
Lumber mills	−22.8	
Furniture manufacture	−19.7	
Paper-box manufacture	+8.6	
Cotton-textile mills	−14.2	
Cement plants	−8.1	
Commercial printing	−1.4	
Newspaper publishing	−4.8	
Quarrying	−18.0	
Public utilities	+2.9	
Retail stores	−7.3	
Wholesale stores	−8.7	
Hotels	−6.6	
Miscellaneous	−16.4	
All industries	−15.2	

[2] Preliminary figures.

WHOLESALE AND RETAIL PRICES

Retail Prices of Food in February, 1931

THE following tables are compiled from simple averages of the actual selling prices[1] received monthly by the Bureau of Labor Statistics from retail dealers.

Table 1 shows for the United States retail prices of food February 15, 1930, and January 15 and February 15, 1931, as well as the percentage changes in the year and in the month. For example, the retail price per pound of round steak was 43.3 cents on February 15, 1930; 37.5 cents on January 15, 1931; and 35.9 cents on February 15, 1931. These figures show decreases of 17 per cent in the year and 4 per cent in the month.

The cost of various articles of food combined shows a decrease of 17.0 per cent February 15, 1931, as compared with February 15, 1930, and a decrease of 4.3 per cent February 15, 1931, as compared with January 15, 1931.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE FEBRUARY 15, 1931, COMPARED WITH JANUARY 15, 1931, AND FEBRUARY 15, 1930

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (−) Feb. 15, 1931, compared with—	
		Feb. 15, 1930	Jan. 15, 1931	Feb. 15, 1931	Feb. 15, 1930	Jan. 15, 1931
		Cents	*Cents*	*Cents*		
Sirloin steak	Pound	48.6	42.5	41.0	−16	−4
Round steak	do	43.3	37.5	35.9	−17	−4
Rib roast	do	36.0	31.5	30.5	−15	−3
Chuck roast	do	29.5	24.4	23.3	−21	−5
Plate beef	do	20.8	16.7	15.9	−24	−5
Pork chops	do	35.2	29.8	27.6	−22	−7
Bacon, sliced	do	42.6	40.2	39.2	−8	−3
Ham, sliced	do	54.0	50.6	49.3	−9	−3
Lamb, leg of	do	38.1	31.4	31.1	−18	−1
Hens	do	38.2	32.7	31.7	−17	−3
Salmon, red, canned	do	31.9	34.4	34.3	+8	−0.3
Milk, fresh	Quart	14.1	13.3	13.0	−8	−2
Milk, evaporated	16-oz. can	10.3	9.8	9.6	−7	−2
Butter	Pound	47.0	37.7	36.3	−23	−4
Oleomargarine (all butter substitutes).	do	26.2	23.7	22.7	−13	−4
Cheese	do	36.9	32.1	31.2	−15	−3
Lard	do	17.1	15.7	14.5	−15	−8
Vegetable lard substitute	do	24.4	23.8	23.7	−3	−0.4
Eggs, strictly fresh	Dozen	47.2	36.1	27.2	−42	−25
Bread	Pound	8.8	8.2	8.0	−9	−2

[1] In addition to monthly retail prices of food and coal, the bureau publishes periodically the prices of gas and electricity for household use in each of 51 cities. At present this information is being collected in June and December of each year.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE FEBRUARY 15, 1931, COMPARED WITH JANUARY 15, 1931, AND FEBRUARY 15, 1930—Continued

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (−) Feb. 15, 1931, compared with—	
		Feb. 15, 1930	Jan. 15, 1931	Feb. 15, 1931	Feb. 15, 1930	Jan. 15, 1931
		Cents	*Cents*	*Cents*		
Flour	Pound	5.1	4.0	4.0	−22	0
Corn meal	do	5.3	5.1	5.0	−6	−2
Rolled oats	do	8.8	8.5	8.4	−5	−1
Cornflakes	8-oz. package	9.4	9.3	9.3	−1	0
Wheat cereal	28-oz. package	25.6	25.2	25.2	−2	0
Macaroni	Pound	19.5	18.2	18.0	−8	−1
Rice	do	9.6	8.9	8.9	−7	0
Beans, navy	do	12.3	9.2	8.9	−28	−3
Potatoes	do	3.9	2.9	2.7	−31	−7
Onions	do	5.1	3.9	3.6	−29	−8
Cabbage	do	6.7	4.3	4.3	−36	0
Pork and beans	No. 2 can	11.3	10.5	10.3	−9	−2
Corn, canned	do	15.5	14.7	14.5	−6	−1
Peas, canned	do	16.5	15.5	15.4	−7	−1
Tomatoes, canned	do	12.6	11.2	11.0	−13	−2
Sugar	Pound	6.5	5.9	5.9	−9	0
Tea	do	77.9	76.7	76.5	−2	−0.3
Coffee	do	42.7	37.8	37.3	−13	−1
Prunes	do	18.3	12.9	12.7	−31	−2
Raisins	do	12.2	11.3	11.3	−7	0
Bananas	Dozen	31.3	29.1	28.7	−8	−1
Oranges	do	49.4	32.5	31.5	−36	−3
Weighted food index					−17.0	−4.3

Table 2 shows for the United States average retail prices of specified food articles on February 15, 1913, and on February 15 of each year from 1925 to 1931, together with percentage changes in February of each of these specified years compared with February, 1913. For example, the retail price per pound of sirloin steak was 23.9 cents in February, 1913; 38.5 cents in February, 1925; 40.6 cents in February, 1926; 40.9 cents in February, 1927; 44.8 cents in February, 1928; 47.8 cents in February, 1929, 48.6 cents in February, 1930; and 41.0 cents in February, 1931.

As compared with February, 1913, these figures show decreases of 61 per cent in February, 1925; 70 per cent in February, 1926; 71 per cent in February, 1927; 87 per cent in February, 1928; 100 per cent in February, 1929; 103 per cent in February, 1930; and 72 per cent in February, 1931.

The cost of the various articles of food combined showed an increase of 31.2 per cent in February, 1931, as compared with February, 1913.

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE FEBRUARY 15 OF CERTAIN SPECIFIED YEARS COMPARED WITH FEBRUARY 15, 1913

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

Article	Average retail prices on Feb. 15—								Per cent of increase Feb. 15 of each specified year compared with Feb. 15, 1913						
	1913	1925	1926	1927	1928	1929	1930	1931	1925	1926	1927	1928	1929	1930	1931
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.							
Sirloin steak..pound..	23.9	38.5	40.6	40.9	44.8	47.8	48.6	41.0	61	70	71	87	100	103	72
Round steak....do....	20.6	32.7	34.8	35.4	38.9	42.1	43.3	35.9	59	69	72	89	104	110	74
Rib roast.....do....	18.8	28.4	29.3	30.4	33.1	35.4	36.0	30.5	51	56	62	76	88	91	62
Chuck roast.....do....	14.9	20.4	22.1	22.7	25.7	28.7	29.5	23.3	37	48	52	72	93	98	56
Plate beef.....do....	11.3	13.2	14.6	14.9	17.5	20.3	20.8	15.9	17	29	32	55	80	84	41
Pork chops.....do....	18.9	30.3	36.3	35.9	29.5	33.0	35.2	27.6	60	92	90	56	75	86	46
Bacon, sliced....do....	25.5	40.6	48.9	48.5	43.7	42.7	42.6	39.2	59	92	90	71	67	67	55
Ham, sliced.....do....	25.4	48.1	53.6	56.7	51.2	53.7	54.0	49.3	89	111	123	102	111	113	94
Lamb, leg of....do....	18.5	38.3	38.4	37.3	37.5	40.3	38.1	31.1	107	108	102	103	118	106	68
Hens.....do....	20.7	36.1	38.9	38.5	37.2	39.7	38.2	31.7	74	88	86	80	92	85	53
Salmon, red, canned ..... pound..	.....	31.4	37.6	33.2	35.4	31.7	31.9	34.3	.....	.....	.....	.....	.....	.....	.....
Milk, fresh.....quart..	8.9	13.9	14.2	14.1	14.3	14.3	14.1	13.0	56	60	58	61	61	58	46
Milk, evaporated ..... 16-ounce can..	.....	11.2	11.6	11.4	11.5	11.4	10.3	9.6	.....	.....	.....	.....	.....	.....	.....
Butter.....pound..	41.2	50.6	54.5	58.8	56.3	58.5	47.0	36.3	23	32	43	37	42	14	[1] 12
Oleomargarine (all butter substitutes) ..... pound..	.....	30.2	31.2	29.0	27.6	27.6	26.2	22.7	.....	.....	.....	.....	.....	.....	.....
Cheese.....do....	22.2	36.4	37.5	37.6	39.2	38.2	36.9	31.2	64	69	69	77	72	66	41
Lard.....do....	15.4	22.8	22.2	19.6	18.3	18.4	17.1	14.5	48	44	27	19	19	11	[1] 6
Vegetable lard substitute.....pound..	.....	25.8	25.6	25.2	24.9	24.7	24.4	23.7	.....	.....	.....	.....	.....	.....	.....
Eggs, strictly fresh .....dozen..	31.5	53.4	43.8	44.2	43.1	49.1	47.2	27.2	70	39	40	37	56	50	[1] 14
Bread.....pound..	5.6	9.5	9.4	9.4	9.2	9.0	8.8	8.0	70	68	68	64	61	57	43
Flour.....do....	3.3	6.4	6.3	5.6	5.3	5.1	5.1	4.0	94	91	70	61	55	55	21
Corn meal.....do....	2.9	5.5	5.2	5.1	5.2	5.3	5.3	5.0	90	79	76	79	83	83	72
Rolled oats.....do....	.....	9.2	9.1	9.1	9.0	8.9	8.8	8.4	.....	.....	.....	.....	.....	.....	.....
Corn flakes .....8-ounce package..	.....	11.0	11.0	10.9	9.7	9.5	9.4	9.3	.....	.....	.....	.....	.....	.....	.....
Wheat cereal .....28-ounce package..	.....	24.6	25.4	25.4	25.6	25.5	25.6	25.2	.....	.....	.....	.....	.....	.....	.....
Macaroni.....pound..	.....	20.3	20.3	20.1	20.0	19.6	19.5	18.0	.....	.....	.....	.....	.....	.....	.....
Rice.....do....	8.6	10.8	11.6	10.8	10.2	9.8	9.6	8.9	26	35	26	19	14	12	3
Beans, navy....do....	.....	10.4	9.6	9.2	10.1	13.8	12.3	8.9	.....	.....	.....	.....	.....	.....	.....
Potatoes.....do....	1.5	2.6	5.7	3.8	3.0	2.3	3.9	2.7	73	280	153	100	53	160	80
Onions.....do....	.....	6.3	5.9	5.7	5.2	8.2	5.1	3.6	.....	.....	.....	.....	.....	.....	.....
Cabbage.....do....	.....	5.0	6.4	4.9	4.5	5.9	6.7	4.3	.....	.....	.....	.....	.....	.....	.....
Pork and beans .....No. 2 can..	.....	12.6	12.2	11.7	11.3	11.8	11.3	10.3	.....	.....	.....	.....	.....	.....	.....
Corn, canned....do....	.....	17.7	16.7	16.1	15.8	15.9	15.5	14.5	.....	.....	.....	.....	.....	.....	.....
Peas, canned....do....	.....	18.5	17.7	17.1	16.8	16.7	16.5	15.4	.....	.....	.....	.....	.....	.....	.....
Tomatoes, canned .....No. 2 can..	.....	13.8	12.3	12.2	11.8	12.7	12.6	11.0	.....	.....	.....	.....	.....	.....	.....
Sugar, granulated .....pound..	5.5	7.7	6.7	7.5	7.1	6.6	6.5	5.9	40	22	36	29	20	18	7
Tea.....do....	54.3	74.8	76.1	77.4	77.3	77.6	77.9	76.5	38	40	43	42	43	43	41
Coffee.....do....	29.8	52.1	51.3	49.9	48.6	49.5	42.7	37.3	75	72	67	63	66	43	25
Prunes.....do....	.....	17.1	17.2	15.8	13.6	14.2	18.3	12.7	.....	.....	.....	.....	.....	.....	.....
Raisins.....do....	.....	14.6	14.5	14.4	13.6	11.6	12.2	11.3	.....	.....	.....	.....	.....	.....	.....
Bananas.....dozen..	.....	36.8	35.7	34.7	34.8	33.3	31.3	28.7	.....	.....	.....	.....	.....	.....	.....
Oranges.....do....	.....	44.7	46.5	47.1	51.0	43.6	49.4	31.5	.....	.....	.....	.....	.....	.....	.....
All articles combined [2]	.....	.....	.....	.....	.....	.....	.....	.....	56.3	66.8	61.1	56.5	59.4	57.9	31.2

[1] Decrease.

[2] Beginning with Jan. 1, 1921, the index numbers showing the trend in the retail cost of food have been composed of the articles shown in Tables 1 and 2, weighted according to the consumption of the average family. From January, 1913, to December, 1920, the index numbers included the following articles: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

Table 3 shows the trend in the retail cost of three important groups of food commodities, viz, cereals, meats, and diary products, by years, from 1913 to 1930, and by months for 1929, 1930, and 1931. The articles within these groups are as follows:

Cereals: Bread, flour, corn meal, rice, rolled oats, corn flakes, wheat cereal, and macaroni.

Meats: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, hens, and leg of lamb.

Dairy products: Butter, cheese, fresh milk, and evaporated milk.

TABLE 3.—INDEX NUMBERS OF RETAIL COST OF CEREALS, MEATS, AND DAIRY PRODUCTS FOR THE UNITED STATES, 1913, TO FEBRUARY, 1931

[Average cost in 1913=100.0]

Year and month	Cereals	Meats	Dairy products	Year and month	Cereals	Meats	Dairy products
1913: Average for year	100.0	100.0	100.0	1929—Continued.			
1914: Average for year	106.7	103.4	97.1	July	163.5	195.9	146.8
1915: Average for year	121.6	99.6	96.1	August	164.7	196.0	147.1
1916: Average for year	126.8	108.2	103.2	September	165.2	194.2	148.1
1917: Average for year	186.5	137.0	127.6	October	163.5	189.2	149.3
1918: Average for year	194.3	172.8	153.4	November	163.6	184.1	147.0
1919: Average for year	198.0	184.2	176.6	December	162.9	181.8	144.9
1920: Average for year	232.1	185.7	185.1	1930: Average for year	158.0	175.8	136.5
1921: Average for year	179.8	158.1	149.5	January	162.9	183.6	138.9
1922: Average for year	159.3	150.3	135.9	February	161.6	183.1	138.5
1923: Average for year	156.9	149.0	147.6	March	160.9	183.0	137.6
1924: Average for year	160.4	150.2	142.8	April	160.3	183.3	138.9
1925: Average for year	176.2	163.0	147.1	May	159.8	181.5	137.0
1926: Average for year	175.5	171.3	145.5	June	160.1	179.9	133.7
1927: Average for year	170.7	169.9	148.7	July	158.6	175.2	133.9
1928: Average for year	167.2	179.2	150.0	August	156.9	169.9	137.4
1929: Average for year	164.1	188.4	148.6	September	156.4	173.3	138.8
January	164.1	180.9	151.9	October	154.4	171.1	137.8
February	164.1	180.3	152.6	November	152.4	164.0	135.3
March	164.1	182.8	152.4	December	151.6	161.6	129.8
April	164.1	187.5	148.9	1931:			
May	163.5	191.2	147.5	January	147.1	159.5	123.6
June	163.0	192.4	146.8	February	144.6	153.4	120.2

Index Numbers of Retail Prices of Food in the United States

IN TABLE 4 index numbers are given which show the changes in the retail prices of specified food articles, by years, for 1913 and 1920 to 1930,[2] by months for 1930 and 1931. These index numbers, or relative prices, are based on the year 1913 as 100, and are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. These figures must be used with caution. For example, the relative price of sirloin steak for the year 1930 was 182.7, which means that the average money price for the year 1930 was 82.7 per cent higher than the average money price for the year 1913. As compared with the relative price, 196.9 in 1929, the figures for 1930 show a decrease of 14.2 points, but an increase of 7.2 per cent in the year.

In the last column of Table 4 are given index numbers showing changes in the retail cost of all articles of food combined. Since January, 1921, these index numbers have been computed from the average prices of the articles of food shown in Tables 1 and 2, weighted according to the average family consumption in 1918. (See March, 1921, issue, p. 25.) Although previous to January, 1921, the number of food articles varied, these index numbers have been so computed as to be strictly comparable for the entire period. The index numbers based on the average for the year 1913 as 100.0 are 132.8 for January, 1931, and 127.0 for February, 1931.

[2] For index numbers of each month, January, 1913, to December, 1928, see Bulletin No. 396, pp. 44 to 61; and Bulletin No. 495, pp. 32 to 45. Index numbers for 1929 are published in each Labor Review, February, 1930, to February, 1931.

TABLE 4.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD BY YEARS, 1913, 1920 TO 1930, AND BY MONTHS FOR 1930 AND 1931

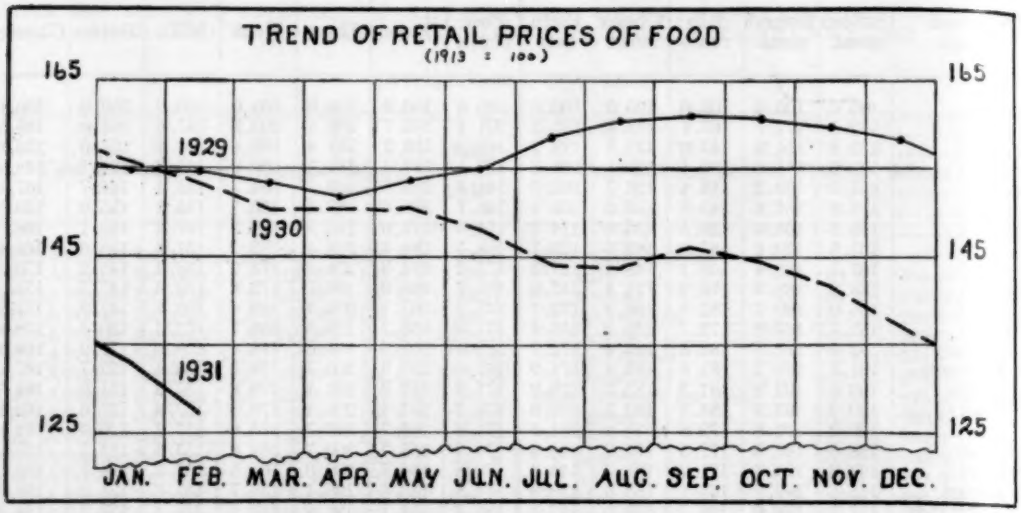
[Average for year 1913=100.0]

Year and month	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon	Ham	Hens	Milk	Butter	Cheese
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	172.1	177.1	167.7	163.8	151.2	201.4	193.7	206.3	209.9	187.6	183.0	188.2
1921	152.8	154.3	147.0	132.5	118.2	166.2	158.2	181.4	186.4	164.0	135.0	153.9
1922	147.2	144.8	139.4	123.1	105.8	157.1	147.4	181.4	169.0	147.2	125.1	148.9
1923	153.9	150.2	143.4	126.3	106.6	144.8	144.8	169.1	164.3	155.1	144.7	167.0
1924	155.9	151.6	145.5	130.0	109.1	146.7	139.6	168.4	165.7	155.1	135.0	159.7
1925	159.8	155.6	149.5	135.0	114.1	174.3	173.0	195.5	171.8	157.3	143.1	166.1
1926	162.6	159.6	153.0	140.6	120.7	188.1	186.3	213.4	182.2	157.3	138.6	165.6
1927	167.7	166.4	158.1	148.1	127.3	175.2	174.8	204.5	173.2	158.4	145.2	170.1
1928	188.2	188.3	176.8	174.4	157.0	165.7	163.0	196.7	175.6	159.6	147.5	174.2
1929	196.9	199.1	185.4	186.9	172.7	175.7	161.1	204.1	186.4	160.7	143.9	171.9
1930	182.7	184.8	172.7	170.0	155.4	171.0	156.7	198.5	166.7	157.3	120.4	158.8
January	192.9	195.5	183.3	184.4	172.7	168.1	157.0	199.3	178.4	159.6	121.9	169.2
February	191.3	194.2	181.8	184.4	171.9	167.6	157.8	200.7	179.3	158.4	122.7	167.0
March	190.6	192.8	181.3	182.5	170.2	171.9	157.8	201.1	179.8	157.3	121.9	164.7
April	190.2	193.3	181.3	182.5	168.6	176.7	157.4	200.4	179.3	157.3	125.6	162.9
May	190.2	192.8	179.8	179.4	164.5	171.9	156.7	200.7	175.6	157.3	120.9	162 0
June	188.6	191.5	177.3	175.6	160.3	174.3	156.7	200.7	167.6	157.3	113.1	157.9
July	182.3	184.3	171.7	166.3	149.6	173.8	156.7	200.0	161.5	157.3	114.1	155.2
August	175.6	176.7	163.1	155.6	133.8	174.8	155.6	198.1	158.7	157.3	123.8	153.4
September	177.2	178.0	166.7	160.0	142.1	186.2	158.1	198.9	159.6	157.3	127.2	154.8
October	175.2	176.2	164.1	158.7	142.1	180.5	157.8	197.4	158.7	157.3	124.8	154.8
November	170.5	170.9	160.6	154.4	139.7	156.2	155.9	193.7	153.1	157.3	118.5	152.9
December	168.9	169.1	159.6	153.8	139.7	149.5	153.0	191.4	150.2	151.7	111.0	150.2
1931: January	167.3	168.2	159.1	152.5	138.0	141.9	148.9	188.1	153.5	149.4	98.4	145.2
February	161.4	161.0	154.0	145.6	131.4	131.4	145.2	183.3	148.8	146.1	94.8	141.2

Year and month	Lard	Eggs	Bread	Flour	Corn meal	Rice	Potatoes	Sugar	Tea	Coffee	All articles [1]
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	186.7	197.4	205.4	245.5	216.7	200.0	370.6	352.7	134.7	157.7	203.4
1921	113.9	147.5	176.8	175.8	150.0	109.2	182.4	145.5	128.1	121.8	153.3
1922	107.6	128.7	155.4	154.5	130.0	109.2	164.7	132.7	125.2	121.1	141.6
1923	112.0	134.8	155.4	142.4	136.7	109.2	170.6	183.6	127.8	126.5	146.2
1924	120.3	138.6	157.1	148.5	156.7	116.1	158.8	167.3	131.4	145.3	145.9
1925	147.5	151.0	167.9	184.8	180.0	127.6	211.8	130.9	138.8	172.8	157.4
1926	138.6	140.6	167.9	181.8	170.0	133.3	288.2	125.5	141.0	171.1	160.6
1927	122.2	131.0	166.1	166.7	173.3	123.0	223.5	132.7	142.5	162.1	155.4
1928	117.7	134.5	162.5	163.6	176.7	114.9	158.8	129.1	142.3	165.1	154.3
1929	115.8	142.0	160.7	154.5	176.7	111.5	188.2	120.0	142.6	164.8	156.7
1930	107.6	118.8	155.4	142.4	176.7	109.2	211.8	112.7	142.5	136.2	147.1
January	108.9	160.6	158.9	154.5	180.0	110.3	229.4	120.0	143.4	147.0	155.4
February	108.2	136.8	157.1	154.5	176.7	110.3	229.4	118.2	143.2	143.3	153.0
March	107.0	102.3	157.1	151.5	176.7	109.2	229.4	116.4	142.8	140.6	150.1
April	106.3	100.0	157.1	148.5	176.7	110.3	241.2	114.5	142.5	138.9	151.2
May	105.7	97.7	157.1	145.5	176.7	109.2	252.9	114.5	142.5	137.2	150.1
June	105.1	97.4	157.1	145.5	176.7	109.2	247.1	110.9	143.0	136.2	147.9
July	103.2	101.7	157.1	139.4	176.7	109.2	194.1	110.9	142.6	135.6	144.0
August	104.4	112.5	155.4	136.4	176.7	109 2	182.4	110.9	142.3	134.6	143.7
September	110.8	124.9	155.4	133.3	176.7	110.3	188.2	107.3	142.1	132.6	145.6
October	112.0	129.9	153.6	130.3	176.7	109.2	182.4	105.5	141.9	131.2	144.4
November	110.8	140.3	151.8	127.3	173.3	106.9	170.6	107.3	141.4	129.9	141.4
December	105.7	120.6	151.8	124.2	173.3	105.8	170.6	107.3	141.4	129.2	137.2
1931: January	99.4	104.6	146.4	121.2	170.0	102.3	170.6	107.3	141.0	126.8	132.8
February	91.8	78.8	142.9	121.2	166.7	102.3	158.8	107.3	140.6	125.2	127.0

[1] 22 articles in 1913–1920; 42 articles in 1921–1931.

The curve shown in the chart below pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.



Comparison of Retail Food Costs in 51 Cities

TABLE 5 shows for 39 cities the percentage of increase or decrease in the retail cost of food [3] February, 1931, compared with the average cost in the year 1913, in February, 1930, and January, 1931. For 12 other cities comparisons are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average consumption of these articles in each city. [4]

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of February 99.2 per cent of all the firms supplying retail prices in the 51 cities sent in a report promptly. The following-named 41 cities had a perfect record; that is, every merchant who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages: Atlanta, Birmingham, Boston, Buffalo, Charleston (S. C.), Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, Fall River, Indianapolis, Kansas City, Little Rock, Louisville, Manchester, Memphis, Milwaukee, Minneapolis, Mobile, Newark, New Haven, New York, Norfolk, Omaha, Peoria, Philadelphia, Portland (Me.), Providence, Richmond, Rochester, St. Louis, St. Paul, Salt Lake City, San Francisco, Savannah, Scranton, Seattle, and Springfield (Ill.).

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[3] For list of articles see note 2, p. 230.

[4] The consumption figures used for January, 1913, to December, 1920, for each article in each city are given in the Labor Review for November, 1918, pp. 94 and 95. The consumption figures which have been used for each month beginning with January, 1921, are given in the Labor Review for March, 1921, p. 26.

TABLE 5.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN FEBRUARY, 1931, COMPARED WITH THE COST IN JANUARY, 1931, FEBRUARY, 1930, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

City	Percentage increase, February, 1931, compared with 1913	Percentage decrease, February, 1931, compared with—		City	Percentage increase, February, 1931, compared with 1913	Percentage decrease, February, 1931, compared with—	
		February, 1930	January, 1931			February, 1930	January, 1931
Atlanta	27.6	16.5	4.3	Minneapolis	29.0	16.2	4.0
Baltimore	32.5	16.1	4.7	Mobile		17.1	6.6
Birmingham	30.6	14.9	4.4	Newark	27.0	14.2	2.9
Boston	28.8	17.7	4.5	New Haven	33.7	13.0	3.5
Bridgeport		14.6	4.2	New Orleans	26.7	17.5	4.2
Buffalo	29.0	18.0	3.6	New York	33.2	14.3	2.7
Butte		17.2	2.1	Norfolk		15.2	5.6
Charleston, S. C.	32.4	14.9	4.1	Omaha	18.0	20.4	5.7
Chicago	38.8	16.1	4.2	Peoria		19.5	3.9
Cincinnati	35.2	16.6	4.2	Philadelphia	30.1	16.4	3.6
Cleveland	22.9	17.8	3.7	Pittsburgh	27.3	17.0	3.8
Columbus		18.8	5.9	Portland, Me		16.4	3.7
Dallas	28.1	15.5	4.5	Portland, Oreg	12.3	19.8	1.9
Denver	11.9	18.3	5.6	Providence	26.9	18.4	4.2
Detroit	26.9	17.8	5.7	Richmond	32.5	17.1	5.0
Fall River	21.8	19.3	4.7	Rochester		16.2	2.3
Houston		19.0	6.0	St. Louis	29.8	18.4	3.5
Indianapolis	20.5	21.2	6.4	St. Paul		18.1	5.8
Jacksonville	22.6	12.0	3.9	Salt Lake City	8.7	17.3	2.4
Kansas City	26.1	18.1	4.2	San Francisco	28.7	14.7	3.3
Little Rock	19.1	20.7	5.1	Savannah		16.2	3.6
Los Angeles	15.5	16.8	2.3	Scranton	33.9	17.2	5.0
Louisville	20.2	20.3	5.0	Seattle	19.9	17.6	2.8
Manchester	23.1	18.4	4.4	Springfield, Ill		19.4	4.2
Memphis	17.7	20.7	6.1	Washington	35.8	15.6	5.2
Milwaukee	28.1	18.5	4.0				

Retail Prices of Coal in February, 1931[1]

THE following table shows the average retail prices of coal on February 15, 1930, and January 15 and February 15, 1931, for the United States and for each of the cities from which retail food prices have been obtained. The prices quoted are for coal delivered to consumers, but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON FEBRUARY 15, 1930, AND JANUARY 15 AND FEBRUARY 15, 1931

City, and kind of coal	1930	1931	
	Feb. 15	Jan. 15	Feb. 15
United States:			
Pennsylvania anthracite—			
Stove—			
Average price	$15.33	$15.12	$15.09
Index (1913=100)	198.4	195.8	195.3
Chestnut—			
Average price	$15.00	$14.88	$14.85
Index (1913=100)	189.6	188.1	187.6
Bituminous—			
Average price	$9.04	$8.87	$8.83
Index (1913=100)	166.4	163.2	162.5
Atlanta, Ga.:			
Bituminous, prepared sizes	$7.79	$7.60	$7.52
Baltimore, Md.:			
Pennsylvania anthracite—			
Stove	14.25	14.25	14.25
Chestnut	13.75	13.75	13.75
Bituminous, run of mine—			
High volatile	7.89	7.75	7.82
Birmingham, Ala.:			
Bituminous, prepared sizes	7.66	7.38	7.36
Boston, Mass.:			
Pennsylvania anthracite—			
Stove	16.25	16.25	16.25
Chestnut	15.75	15.75	15.75
Bridgeport, Conn.:			
Pennsylvania anthracite—			
Stove	15.50	14.75	14.50
Chestnut	15.50	14.75	14.50
Buffalo, N. Y.:			
Pennsylvania anthracite—			
Stove	13.77	13.79	13.79
Chestnut	13.32	13.29	13.29
Butte, Mont.:			
Bituminous, prepared sizes	11.09	10.48	10.47
Charleston, S. C.:			
Bituminous, prepared sizes	9.67	9.67	9.67
Chicago, Ill.:			
Pennsylvania anthracite—			
Stove	16.85	16.40	16.40
Chestnut	16.40	16.30	16.30
Bituminous—			
Prepared sizes—			
High volatile	8.41	8.09	8.09
Low volatile	12.04	11.89	11.95
Run of mine—			
Low volatile	8.25	8.00	8.00
Cincinnati, Ohio:			
Bituminous—			
Prepared sizes—			
High volatile	$6.30	$6.30	$6.30
Low volatile	8.78	8.53	8.53
Cleveland, Ohio:			
Pennsylvania anthracite—			
Stove	15.17	14.56	14.56
Chestnut	14.75	14.44	14.38
Bituminous—			
Prepared sizes—			
High volatile	7.08	6.81	6.66
Low volatile	9.94	9.93	9.91
Columbus, Ohio:			
Bituminous—			
Prepared sizes—			
High volatile	6.05	6.09	5.91
Low volatile	8.38	8.13	8.13
Dallas, Tex.:			
Arkansas anthracite—Egg	15.50	15.00	15.00
Bituminous, prepared sizes	12.92	12.58	12.58
Denver, Colo.:			
Colorado anthracite—			
Furnace, 1 and 2 mixed	15.06	15.25	15.25
Stove, 3 and 5 mixed	15.06	15.25	15.25
Bituminous, prepared sizes	10.44	10.21	9.90
Detroit, Mich.:			
Pennsylvania anthracite—			
Stove	16.00	14.92	14.58
Chestnut	15.50	14.92	14.58
Bituminous—			
Prepared sizes—			
High volatile	8.32	7.41	7.38
Low volatile	10.15	9.24	8.98
Run of mine—			
Low volatile	8.00	7.50	7.50
Fall River, Mass.:			
Pennsylvania anthracite—			
Stove	16.50	16.50	16.50
Chestnut	16.25	16.25	16.25
Houston, Tex.:			
Bituminous, prepared sizes	13.60	12.20	12.00
Indianapolis, Ind.:			
Bituminous—			
Prepared sizes—			
High volatile	6.01	5.93	5.92
Low volatile	8.75	9.17	9.17
Run of mine—			
Low volatile	7.08	7.05	7.05

[1] Prices of coal were formerly secured semiannually and published in the March and September issues of the Labor Review. Since June, 1920, these prices have been secured and published monthly.

AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON FEBRUARY 15, 1930, AND JANUARY 15 AND FEBRUARY 15, 1931—Contd.

City, and kind of coal	1930	1931	
	Feb. 15	Jan. 15	Feb. 15
Jacksonville, Fla.:			
Bituminous, prepared sizes	$14.00	$10.00	$10.00
Kansas City, Mo.:			
Arkansas anthracite—			
Furnace	12.55	12.44	12.44
Stove No. 4	13.67	13.50	13.50
Bituminous, prepared sizes	7.15	6.79	6.77
Little Rock, Ark.:			
Arkansas anthracite—Egg	13.50	13.50	13.50
Bituminous, prepared sizes	10.05	10.05	10.05
Los Angeles, Calif.:			
Bituminous, prepared sizes	16.50	16.50	16.50
Louisville, Ky.:			
Bituminous—			
Prepared sizes—			
High volatile	7.03	6.24	6.28
Low volatile	9.50	8.75	8.75
Manchester, N. H.:			
Pennsylvania anthracite—			
Stove	17.00	16.83	16.83
Chestnut	17.00	16.83	16.83
Memphis, Tenn.:			
Bituminous, prepared sizes	7.87	7.44	7.52
Milwaukee, Wis.:			
Pennsylvania anthracite—			
Stove	16.30	15.75	15.75
Chestnut	15.85	15.50	15.50
Bituminous—			
Prepared sizes—			
High volatile	7.68	7.70	7.74
Low volatile	11.00	10.57	10.60
Minneapolis, Minn.:			
Pennsylvania anthracite—			
Stove	18.30	16.90	16.90
Chestnut	17.85	16.90	16.90
Bituminous—			
Prepared sizes—			
High volatile	10.57	9.85	9.69
Low volatile	12.39	12.63	12.91
Mobile, Ala.:			
Bituminous, prepared sizes	9.47	9.59	9.59
Newark, N. J.:			
Pennsylvania anthracite—			
Stove	13.96	13.90	13.85
Chestnut	13.46	13.40	13.35
New Haven, Conn.:			
Pennsylvania anthracite—			
Stove	15.17	14.90	14.90
Chestnut	15.17	14.90	14.90
New Orleans, La.:			
Bituminous, prepared sizes	10.96	10.93	10.93
New York, N. Y.:			
Pennsylvania anthracite—			
Stove	14.58	14.17	14.17
Chestnut	14.08	13.67	13.67
Norfolk, Va.:			
Pennsylvania anthracite—			
Stove	14.00	15.00	15.00
Chestnut	14.00	15.00	15.00
Bituminous—			
Prepared sizes—			
High volatile	7.25	7.38	7.38
Low volatile	8.50	10.00	10.00
Run of mine—			
Low volatile	6.50	7.00	7.00
Omaha, Nebr.:			
Bituminous, prepared sizes	9.69	9.68	9.71
Peoria, Ill.:			
Bituminous, prepared sizes	6.78	6.43	6.33
Philadelphia, Pa.:			
Pennsylvania anthracite—			
Stove	[1] 15.00	14.00	14.00
Chestnut	[1] 14.50	13.50	13.50
Pittsburgh, Pa.:			
Pennsylvania anthracite—			
Chestnut	$15.00	$14.50	$14.50
Bituminous, prepared sizes	5.36	4.91	4.75
Portland, Me.:			
Pennsylvania anthracite—			
Stove	16.80	16.80	16.80
Chestnut	16.80	16.80	16.80
Portland, Oreg.:			
Bituminous, prepared sizes	13.32	13.38	13.26
Providence, R. I.:			
Pennsylvania anthracite—			
Stove	[2] 16.00	[2] 16.00	[2] 16.00
Chestnut	[2] 16.00	[2] 16.00	[2] 16.00
Richmond, Va.:			
Pennsylvania anthracite—			
Stove	15.00	15.00	15.00
Chestnut	15.00	15.00	15.00
Bituminous—			
Prepared sizes—			
High volatile	8.38	8.75	8.75
Low volatile	9.11	9.83	9.83
Run of mine—			
Low volatile	7.25	7.50	7.50
Rochester, N. Y.:			
Pennsylvania anthracite—			
Stove	14.75	14.50	14.75
Chestnut	14.25	14.00	14.25
St. Louis, Mo.:			
Pennsylvania anthracite—			
Stove	16.70	16.23	16.20
Chestnut	16.45	15.98	15.95
Bituminous, prepared sizes	6.75	6.40	6.37
St. Paul, Minn.:			
Pennsylvania anthracite—			
Stove	18.30	16.90	16.90
Chestnut	17.85	16.90	16.90
Bituminous—			
Prepared sizes—			
High volatile	10.29	9.58	9.58
Low volatile	12.63	12.66	12.86
Salt Lake City, Utah:			
Bituminous, prepared sizes	8.38	8.47	8.16
San Francisco, Calif.:			
New Mexico anthracite—			
Cerillos egg	26.00	26.00	26.00
Colorado anthracite—			
Egg	25.50	25.75	25.50
Bituminous, prepared sizes	16.88	17.00	16.88
Savannah, Ga.:			
Bituminous, prepared sizes	[3] 10.24	[3] 10.53	[3] 10.53
Scranton, Pa.:			
Pennsylvania anthracite—			
Stove	10.28	10.18	10.18
Chestnut	9.92	9.88	9.88
Seattle, Wash.:			
Bituminous, prepared sizes	10.79	10.79	10.68
Springfield, Ill.:			
Bituminous, prepared sizes	4.34	4.34	4.34
Washington, D. C.:			
Pennsylvania anthracite—			
Stove	[1] 15.73	[1] 15.73	[1] 15.73
Chestnut	[1] 15.23	[1] 15.23	[1] 15.23
Bituminous—			
Prepared sizes—			
High volatile	[1] 8.63	[1] 8.61	[1] 8.61
Low volatile	[1] 11.43	[1] 11.43	[1] 11.43
Run of mine—			
Mixed	[1] 7.75	[1] 7.81	[1] 7.81

[1] Per ton of 2,240 pounds.

[2] The average price of coal delivered in bin is 50 cents higher than here shown. Practically all coal is delivered in bin.

[3] All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

Comparison of Retail-Price Changes in the United States and in Foreign Countries

THE principal index numbers of retail prices published by foreign countries have been brought together with those of this bureau in the subjoined table after having been reduced, in most cases, to a common base, namely, prices for July, 1914, equal 100. This base was selected instead of the average for the year 1913, which is used in other tables of index numbers of retail prices compiled by the bureau, because of the fact that in numerous instances satisfactory information for 1913 was not available. Some of the countries shown in the table now publish index numbers of retail prices on the July, 1914, base. In such cases, therefore, the index numbers are reproduced as published. For other countries the index numbers here shown have been obtained by dividing the index for each month specified in the table by the index for July, 1914, or the nearest period thereto as published in the original sources. As stated in the table, the number of articles included in the index numbers for the different countries differs widely. These results, which are designed merely to show price trends and not actual differences in the several countries, should not, therefore, be considered as closely comparable with one another. In certain instances, also, the figures are not absolutely comparable from month to month over the entire period, owing to slight changes in the list of commodities and the localities included on successive dates.

INDEX NUMBERS OF RETAIL PRICES IN THE UNITED STATES AND IN OTHER COUNTRIES

Country	United States	Canada	Belgium	Czecho-slovakia	Den-mark	Finland	France (except Paris)	France (Paris)	Germany
Number of localities	51	60	59	Entire country	100	21	320	1	71
Commodities included	42 foods	29 foods	56 (foods, etc.)	29 foods	53 foods	36 foods	13 (11 foods)	13 (11 foods)	Foods
Computing agency	Bureau of Labor Statistics	Department of Labor	Ministry of Industry and Labor	Office of Statistics	Government Statistical Department	Central Bureau of Statistics	Ministry of Labor	Ministry of Labor	Federal Statistical Bureau
Base=100	July, 1914	July, 1914	April, 1914	July, 1914	July, 1914	January–June, 1914	August, 1914	July, 1914	October, 1913–July, 1914
1924									
January	146	145	480	836	194	1089	[1] 401	376	127
April	138	137	498	829	----------	1035	[1] 395	380	123
July	140	134	493	837	200	1052	[1] 401	360	126
October	145	139	513	877	----------	1156	[1] 428	383	134
1925									
January	151	145	521	899	215	1130	[1] 442	408	137
April	148	142	506	901	----------	1137	[1] 435	409	144
July	156	141	509	916	210	1145	[1] 451	421	154
October	158	147	533	875	----------	1165	[1] 471	433	151
1926									
January	161	157	527	854	177	1090	[1] 503	480	143
April	159	153	529	832	----------	1085	[1] 523	503	142
July	154	149	637	876	159	1105	[1] 610	574	145
October	157	147	705	888	----------	1126	[1] 647	624	145
1927									
January	156	153	755	914	156	1092	[1] 586	592	151
April	150	146	774	923	152	1069	[1] 572	580	150
July	150	147	790	962	153	1102	[1] 553	557	157
October	153	148	804	907	152	1156	[1] 526	520	152
1928									
January	152	151	813	913	152	1126	[1] 522	530	152
April	149	146	807	905	152	1119	[1] 530	532	151
July	150	146	811	943	153	1155	[1] 536	[2] 111	154
October	153	152	834	907	146	1183	[1] 562	[2] 115	152
1929									
January	151	152	856	900	147	1156	----------	[2] 122	153
February	151	150	859	911	----------	1141	[2] 117	[2] 122	156
March	150	151	862	913	----------	1135	----------	[2] 123	159
April	148	148	860	901	150	1118	----------	[2] 125	154
May	150	147	864	906	----------	1104	[2] 118	[2] 127	154
June	151	147	867	907	----------	1103	----------	[2] 127	154
July	155	148	874	925	149	1116	----------	[2] 123	156
August	157	157	879	900	----------	1131	[2] 118	[2] 123	155
September	157	157	889	886	----------	1128	----------	[2] 122	154
October	157	157	894	879	146	1137	----------	[2] 124	154
November	156	158	897	880	----------	1123	[2] 120	[2] 125	153
December	155	159	897	880	----------	1090	----------	[2] 125	152
1930									
January	152	160	895	872	145	1048	----------	[2] 124	150
February	150	159	890	865	----------	1022	[2] 118	[2] 121	148
March	147	157	879	853	----------	1006	----------	[2] 120	145
April	148	151	870	851	1.0	975	----------	[2] 119	143
May	147	151	867	852	----------	945	[2] 116	[2] 120	142
June	145	150	866	865	----------	937	----------	[2] 120	143
July	141	147	869	836	137	909	----------	[2] 122	146
August	141	144	872	857	----------	995	[2] 127	[2] 127	145
September	142	140	874	839	----------	976	----------	[2] 129	142
October	141	139	875	830	133	944	----------	[2] 129	140
November	138	138	872	818	----------	934	[2] 132	[2] 131	138
December	134	136	859	810	----------	903	----------	[2] 132	135

[1] For succeeding month.

[2] In gold.

INDEX NUMBERS OF RETAIL PRICES IN THE UNITED STATES AND IN OTHER COUNTRIES—Continued

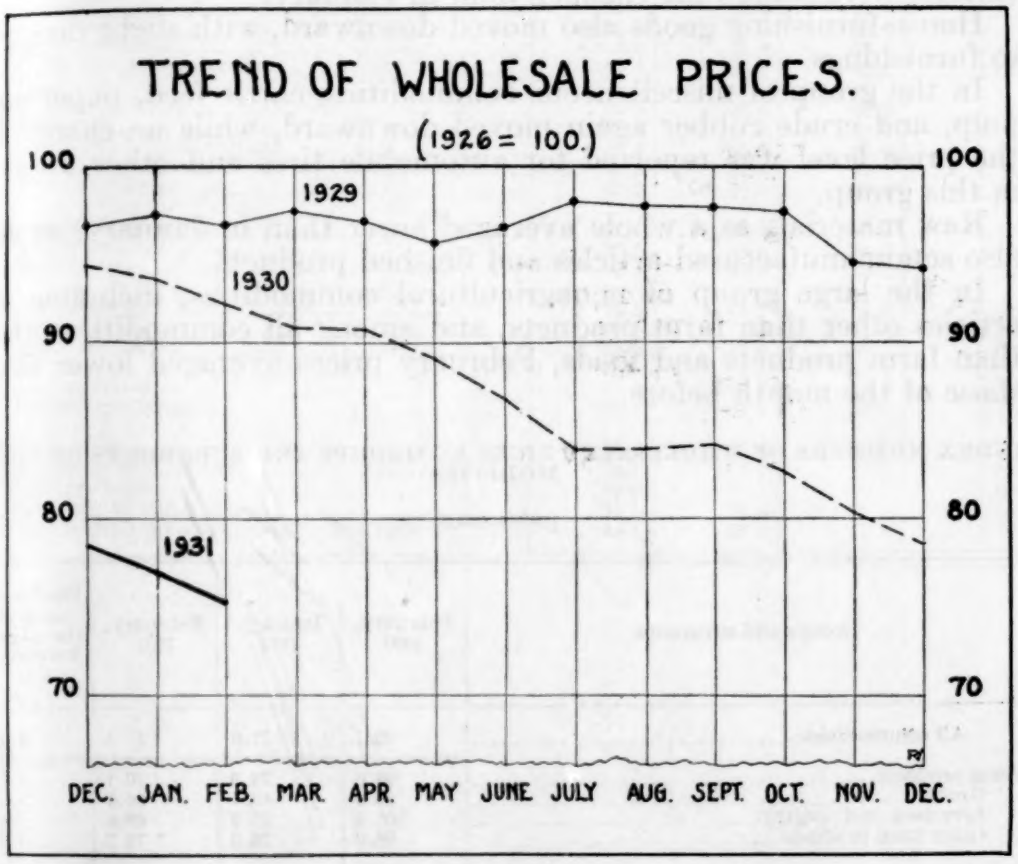
Country	Italy	Netherlands (The Hague)	Norway	Sweden	Switzerland	United Kingdom	South Africa	India (Bombay)	Australia	New Zealand
Number of localities	47	1	31	49	33	630	9	1	30	25
Commodities included	20 foods and charcoal	Foods	Foods	50 (43 foods, 7 fuel and light)	Foods	21 foods	24 foods	17 foods	46 foods and groceries	59 foods
Computing agency	Ministry of National Economy	Central Bureau of Statistics	Central Bureau of Statistics	Social Board	Labor Office (revised)	Ministry of Labor	Office of Census and Statistics	Labor Office (revised)	Bureau of Census and Statistics	Census and Statistics Office
Base=100	1913	1921	July, 1914	July, 1914	July, 1914	July, 1919	1914	July, 1914	July, 1914	July, 1914
1924										
January	527	[1] 82.5	230	163	173	175	120	154	155	150
April	527	[1] 81.7	240	159	169	167	122	143	150	150
July	538	[1] 80.8	248	159	170	162	117	151	148	148
October	556	[1] 82.3	264	172	174	172	120	156	146	145
1925										
January	609	[1] 80.2	277	170	172	178	120	152	148	147
April	606	[1] 86.7	276	170	169	170	124	153	152	149
July	605	[1] 81.3	260	169	169	167	120	152	156	151
October	645	[1] 79.3	228	166	168	172	119	148	157	155
1926										
January	658	[1] 76.6	216	162	165	171	116	151	155	154
April	633	[1] 80.1	198	158	161	159	119	150	163	151
July	645	[1] 73.5	198	156	159	161	117	155	159	149
October	662	[1] 75 7	191	157	160	163	120	153	153	147
1927										
January	629	[1] 76.3	180	156	158	167	116	155	158	148
April	606	[1] 77.0	169	151	156	155	119	151	151	145
July	540	[1] 76.5	175	151	157	159	119	154	152	144
October	530	[1] 79.5	173	155	159	161	119	148	159	143
1928										
January	531	[1] 81.6	170	153	159	162	119	151	154	147
April	522	[1] 79.4	171	154	156	155	119	140	154	144
July	516	[1] 76.2	173	157	157	157	116	143	152	147
October	536	[1] 75.5	163	153	158	157	115	142	150	149
1929										
January	565	----------	158	150	157	159	115	146	161	149
February	565	----------	157	151	157	156	115	146	161	148
March	571	76.0	158	152	156	157	117	146	160	146
April	566	----------	156	150	154	150	119	145	162	147
May	563	----------	156	149	154	149	119	143	160	148
June	564	72.3	156	149	155	147	118	144	161	147
July	558	----------	157	151	155	149	116	145	160	146
August	553	----------	161	151	156	153	115	146	161	146
September	547	74.5	160	151	158	154	114	146	162	147
October	546	----------	160	150	158	156	113	147	165	147
November	551	----------	159	148	157	159	112	147	164	147
December	554	73.1	157	147	157	159	112	148	155	147
1930										
January	548	----------	156	145	155	157	112	145	153	146
February	536	----------	154	144	154	154	111	143	151	145
March	525	69.7	152	142	153	150	111	139	151	144
April	522	----------	152	140	152	143	113	138	151	144
May	510	----------	151	140	150	140	113	137	150	144
June	509	68.8	151	140	151	138	112	137	149	143
July	507	----------	151	140	152	141	109	136	147	143
August	506	----------	151	139	152	144	108	133	146	141
September	508	71.6	151	139	152	144	107	134	141	140
October	513	----------	150	137	152	143	108	127	138	139
November	512	----------	149	136	151	144	108	123	135	139
December	482	69.0	147	134	149	141	103	116	134	137

[1] Second month following.

Index Numbers of Wholesale Prices in February, 1931

THE index number of wholesale prices computed by the Bureau of Labor Statistics of the United States Department of Labor shows a further recession in February. This index number, which includes 550 commodities or price quotations weighted according to the importance of each article and based on prices in 1926 as 100.0, declined from 77.0 in January to 75.5 in February, a decrease of 2 per cent. The purchasing power of the 1926 dollar in February was $1.325.

Farm products as a group decreased 4½ per cent below the January level, due to lower prices for most grains, beef cattle, hogs, poultry,



eggs, hay, onions, potatoes, and wool. Eggs in particular showed radical price decreases in the month. Milk also averaged somewhat lower than in January. Sheep, lambs, and cotton, on the other hand, were somewhat higher than in the preceding month.

Foods were 3¾ per cent lower than in January, with declines in fresh and cured meats, lard, dressed poultry, dried fruits, coffee, and sugar. Butter and flour in most markets showed little change, butter becoming firmer and flour prices weaker toward the end of the month. Both butter and eggs in February were at lower levels than at any time since pre-war days.

Hides and skins showed a further price drop, with leather, boots and shoes, and other leather products declining slightly.

In the group of textile products there were small decreases among cotton goods, silk and rayon, and woolen and worsted goods, while

advancing prices of burlap caused a small increase among other textiles.

Anthracite coal and coke were stationary in price, while bituminous coal and petroleum products moved slightly downward. Among metals and metal products there was a negligible increase in iron and steel, while nonferrous metals declined appreciably. Automobiles showed a small price decrease, while agricultural implements and other metal products were unchanged in price.

Building materials were down as lumber, brick, and cement declined in price. Structural steel and paint materials, on the contrary, advanced in price in the month.

Chemicals and drugs, including fertilizer materials and mixed fertilizers, were somewhat cheaper than in January.

House-furnishing goods also moved downward, with slight declines in furnishings.

In the group of miscellaneous commodities, cattle feed, paper and pulp, and crude rubber again moved downward, while no change in the price level was reported for automobile tires and other articles in this group.

Raw materials as a whole averaged lower than in January, as did also semimanufactured articles and finished products.

In the large group of nonagricultural commodities, including all articles other than farm products, and among all commodities other than farm products and foods, February prices averaged lower than those of the month before.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES

[1926=100.0]

Groups and subgroups	February, 1930	January, 1931	February, 1931	Purchasing power of the dollar, February, 1931
All commodities	92.1	77.0	75.5	$1.325
Farm products	98.0	73.5	70.1	1.427
Grains	89.0	62.4	60.4	1.656
Livestock and poultry	101.3	75.2	69.6	1.437
Other farm products	98.9	76.0	73.7	1.357
Foods	95.5	80.1	77.1	1.297
Butter, cheese, and milk	97.4	85.2	83.3	1.200
Meats	105.1	88.4	83.6	1.196
Other foods	89.2	73.4	70.8	1.412
Hides and leather products	103.9	88.6	86.6	1.155
Hides and skins	99.0	64.4	57.7	1.733
Leather	107.7	90.8	89.0	1.124
Boots and shoes	103.8	95.1	95.0	1.053
Other leather products	105.8	102.4	102.0	.980
Textile products	88.3	71.0	70.4	1.420
Cotton goods	93.8	77.3	76.9	1.300
Silk and rayon	74.9	50.1	48.8	2.049
Woolen and worsted goods	93.2	82.1	81.7	1.224
Other textile products	72.2	57.5	59.0	1.695
Fuel and lighting materials	78.8	69.8	69.6	1.437
Anthracite coal	91.2	88.9	88.9	1.125
Bituminous coal	91.4	88.1	87.8	1.139
Coke	84.2	83.8	83.8	1.193
Gas	94.0	95.8	(1)	
Petroleum products	65.7	50.4	50.2	1.992

[1] Data not yet available.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES—Continued

Groups and subgroups	February, 1930	January, 1931	February, 1931	Purchasing power of the dollar, February, 1931
Metals and metal products	100.9	89.3	88.9	$1.125
Iron and steel	94.8	88.1	88.4	1.131
Nonferrous metals	100.2	67.4	66.1	1.513
Agricultural implements	93.1	94.7	94.7	1.056
Automobiles	106.8	98.7	98.0	1.020
Other metal products	98.4	95.0	95.0	1.053
Building materials	95.7	82.9	81.8	1.222
Lumber	91.9	76.0	73.2	1.366
Brick	88.3	81.7	81.5	1.227
Cement	92.7	90.5	87.9	1.138
Structural steel	91.9	83.0	84.3	1.186
Paint materials	93.0	70.2	70.9	1.410
Other building materials	106.5	95.5	95.6	1.046
Chemicals and drugs	92.3	83.6	82.2	1.217
Chemicals	97.9	87.0	85.0	1.176
Drugs and pharmaceuticals	68.6	65.1	65.0	1.538
Fertilizer materials	89.5	81.4	81.1	1.233
Mixed fertilizers	96.2	90.4	89.1	1.122
House-furnishing goods	97.0	91.1	90.8	1.101
Furniture	96.6	95.5	95.5	1.047
Furnishings	97.3	87.3	86.7	1.153
Miscellaneous	78.5	64.7	63.9	1.565
Cattle feed	107.5	75.0	71.6	1.397
Paper and pulp	87.0	83.6	83.1	1.203
Rubber	32.8	17.1	16.1	6.211
Automobile tires	55.2	45.7	45.7	2.188
Other miscellaneous	108.5	86.1	85.1	1.175
Raw materials	91.8	72.9	70.6	1.416
Semimanufactured articles	92.1	73.4	72.3	1.383
Finished products	92.6	80.5	79.3	1.261
Nonagricultural commodities	90.6	78.2	77.1	1.297
All commodities less farm products and foods	89.6	77.8	77.1	1.297

IMMIGRATION AND EMIGRATION

Statistics of Immigration for January, 1931

By J. J. KUNNA, CHIEF STATISTICIAN UNITED STATES BUREAU OF IMMIGRATION

THE inward movement to the United States of 12,815 aliens during January, 1931, was the smallest for any month since the World War, or since March, 1918, when 11,074 aliens entered the country. Of the 12,815 arrivals for January last, only 4,091 came to take up permanent residence in the United States, the larger number, or 8,724, being of the visiting class or nonimmigrants. Of the latter class 5,441 came here for a visit or were passing through the country on their way elsewhere, and 3,283 were returning to their homes here after a temporary sojourn abroad.

The exodus of aliens from the United States now exceeds the influx, 4,397 emigrants having departed during January to make their homes again in some foreign country, as against 4,091 immigrants or newcomers for the month. January also saw a large outward movement of aliens leaving for a visit to their native land. In this month 17,169 nonemigrants left for foreign lands, of whom 9,852 departed with the intention of returning to their homes in the United States after a short visit abroad. Nearly one-half of these visitors to their native land were Greeks, Italians, Portuguese, and Spanish, and the vast majority of these were male laborers.

Immigration from Europe has dropped from an average of 12,287 per month during the last fiscal year to 2,555, a decline of nearly 80 per cent, and in the case of Canada the decrease was from 5,292 to 867, or 83 per cent, while the number of immigrants admitted from Mexico dwindled from a monthly average of 1,059 last year to 182 in January last. Comparatively few unskilled workers now come from Mexico, the vast majority of the present-day immigrants from that country being women and children.

INWARD AND OUTWARD PASSENGER MOVEMENT FROM JULY 1, 1930, TO JANUARY 31, 1931

Period	Inward					Aliens debarred from entering [1]	Outward					Aliens deported after landing [2]
	Aliens admitted			United States citizens arrived	Total		Aliens departed			United States citizens departed	Total	
	Immigrant	Nonimmigrant	Total				Emigrant	Nonemigrant	Total			
1930												
July	13,323	16,466	29,789	38,822	68,611	881	4,818	22,588	27,406	55,366	82,772	1,440
August	14,816	19,724	34,540	69,957	104,497	837	5,245	29,166	34,411	88,372	122,783	1,208
September	17,792	29,359	47,151	80,900	128,051	929	5,100	24,604	29,704	56,526	86,230	1,552
October	13,942	23,304	37,246	40,702	77,948	854	5,352	22,938	28,290	32,988	61,278	1,526
November	9,209	13,032	22,241	22,381	44,622	734	4,951	19,285	24,236	24,420	48,656	1,405
December	6,439	9,939	16,378	28,535	44,913	806	5,450	17,603	23,053	21,140	44,193	1,377
1931												
January	4,091	8,724	12,815	19,844	32,659	693	4,397	17,169	21,566	24,885	46,451	1,517
Total	79,612	120,548	200,160	301,141	501,301	5,734	35,313	153,353	188,666	303,697	492,363	10,025

[1] These aliens are not included among arrivals, as they were not permitted to enter the United States.
[2] These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

PUBLICATIONS RELATING TO LABOR

Official—United States

CONNECTICUT.—Emergency Committee on Employment. *Report, February 19, 1931. Hartford, 1931. 11 pp.*

Reviewed in this issue.

IDAHO.—Industrial Accident Board. *Seventh report, from November 1, 1928, to October 31, 1930. Boise [1930?]. 143 pp.*

Reviewed in this issue.

MICHIGAN.—Department of Labor and Industry. *Labor and Industry, Vol. I, No. 1. Lansing, December, 1930. 88 pp.*

This initial number of a bulletin which the Michigan Department of Labor and Industry plans to issue quarterly contains information on the inspection work of the department, employment and earnings of employees in various industries, industrial accidents, and workmen's compensation.

MILWAUKEE.—Citizens' Committee on Unemployment and the Public Employment Office. *Eighteenth annual report, July 1, 1929, to June 30, 1930. Milwaukee [1931?]. 17 pp.; charts.*

MINNESOTA.—Industrial Commission. *Fifth biennial report, 1929–1930. St. Paul [1930?]. 304 pp.*

Data from this report, on labor on highway construction, are published in this issue of the Labor Review.

MISSISSIPPI.—Board for Vocational Education. *Bulletin No. 55, Vocational series No. 22: Sixth biennial report, for the period ending June 30, 1929. Jackson [1929?] 94 pp., illus.*

SOUTH DAKOTA.—Office of Industrial Commissioner. *Thirteenth annual report, for the twelve months ending June 30, 1930. [Pierre, 1930?] 41 pp.*

Reviewed in this issue.

UNITED STATES.—Congress. House of Representatives. Committee on the Judiciary. *Establishment of a Federal unemployment agency. Statements of the Secretary and the Assistant Secretary of Labor made before the committee, setting forth objections to Senate bill 3060 and suggesting a substitute therefor. Washington, 1931. 25 pp. (Committee print.)*

—— Department of Agriculture. *Technical bulletin No. 213: Perquisites and wages of hired farm laborers, by Josiah C. Folsom. Washington, 1931. 58 pp.; maps, charts.*

—— Department of Commerce. *Selected bibliography: Industrial plans for the regularization of employment. Washington, 1931. 5 pp.*

Prepared for the President's Emergency Committee for Employment by the industrial relations section of Princeton University.

—— —— *Unemployment: Industry seeks a solution. A series of radio addresses given under the auspices of the President's Emergency Committee for Employment. Washington, 1931. 31 pp.*

—— —— Bureau of Foreign and Domestic Commerce. *Commerce yearbook, 1930. Vol. II.—Foreign countries. Washington, 1930. 701 pp.; maps, charts.*

The volume covers over 60 foreign countries. The subjects treated include production, retail and wholesale prices, population, trade, and economic and labor conditions, although not all topics are covered for each country.

—— —— —— *Trade promotion series, No. 105: The coal industry of the world, with special reference to international trade in coal, by H. M. Hoar. Washington, 1930. 328 pp.; maps, charts, illus.*

UNITED STATES.—Department of Commerce. Bureau of Mines. *Technical paper 480: Intensities of odors and irritating effects of warning agents for inflammable and poisonous gases, by S. H. Katz and E. J. Talbert. Washington, 1930. 37 pp., diagrams.*

The study covered the effect of a large number of odorous or irritating substances with a view to the selection of the most promising warning-giving substances for use in gas.

—— —— —— *Technical paper 482: Toxic gases from 60 per cent gelatin explosives, by G. St. J. Perrott and others. Washington, 1930. 30 pp.*

The explosives used in these tests are those largely used in blasting rock gangways and water tunnels in anthracite coal mines. The tests showed the conditions which affect the production of toxic gases.

—— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 531: Consumers', credit, and productive cooperative societies, 1929. Washington, 1931. 150 pp.*

—— —— Children's Bureau. *Publication No. 199: Child labor in New Jersey. Part 3: The working children of Newark and Paterson. Washington, 1931. 94 pp.*

Based on a study of working children in the two New Jersey cities, made in 1925. Some general conclusions were that, except for girls in Newark, those going to work had been no more frequently retarded than children of the same ages who remained in school, and a group at least as large as among children staying in school had been advanced beyond the average so that they appeared to have been capable of further school training. Retardation appears not to have been a disadvantage in industry for all groups in all respects. "In Newark it had not affected wages unfavorably, nor was it associated with an unusual amount of unemployment, though retarded children shifted from position to position somewhat more than others. In Paterson a positive relation, on the whole, was shown between retardation and low wages, unemployment and lack of steadiness, but the numbers of children in the groups were too small to support definite conclusions."

—— Government Printing Office. *Labor: Child labor, employers' liability, wages, insurance, women, strikes. List of publications relating to above subjects for sale by Superintendent of Documents, Washington, D. C. Washington, 1931. 33 pp. (Price list 33—16th ed.)*

—— Interstate Commerce Commission. Bureau of Statistics. *Forty-third annual report on the statistics of railways in the United States for the year ended December 31, 1929, including also selected data relating to other common carriers subject to the interstate commerce act for the year 1929. Washington, 1930. 272 pp.; charts.*

Official—Foreign Countries

ALSACE-LORRAINE (FRANCE).—Office Général des Assurances Sociales. *Rapport sur le fonctionnement de l'Office Général des Assurances Sociales, des Offices Supérieurs et des Offices d'Assurance durant l'année 1929. Compte rendu des opérations des institutions d'assurances sociales pendant l'année 1928. Strassburg, October-November, 1930. Bulletin, Nos. 10–11, pp. 147–353.*

The report of the social insurance office of Alsace-Lorraine for the year 1929 gives statistics regarding the operation of sickness, invalidity, old-age, and accident-insurance funds.

CANADA.—Bureau of Statistics. Internal Trade Branch. *Prices and price indexes, 1913–1929. Ottawa, 1930. 216 pp.*

Includes statistics of domestic and foreign wholesale and retail prices, security prices, prices of services (street car fares, hospital charges, gas, electricity, and telephone rates, etc.), and export and import valuations.

—— Department of Labor. *Wages and hours of labor report, No. 14: Wages and hours of labor in Canada, 1920 to 1930. Ottawa, 1931. 104 pp.*

Wage statistics from the publication are given in this issue of the Labor Review.

GREAT BRITAIN.—Lord Privy Seal. *Statement of the principal measures taken by H. M. Government in connection with unemployment. London, 1930. 22 pp. (Cmd. 3746.)*

A summary of the emergency measures taken with a view to moderating distress and restoring more normal conditions. These have included a program of emergency works of public utility which will provide employment for more than 500,000 man-years, various social measures which, it is stated, have maintained the well-being of the population to an extent which compares favorably with the experience of any previous depression, and a variety of steps to improve technical equipment, to increase the efficiency of British business organization, and to put British industry in a stronger position for competing in world markets. This policy is being actively continued, and the need for readjusting the balance of British economic life to altered postwar conditions has been recognized by the introduction of measures designed to restore agriculture to a more prosperous condition.

—— Ministry of Labour. Unemployment Grants Committee. *Report to August 30, 1930. London, 1930. 16 pp. (Cmd. 3744.)*

Data from this report are given in this issue of the Labor Review.

INDIA.—Chief Inspector of Mines. *Annual report for the year ending December 31, 1929. Calcutta, 1930. 182 pp.*

Certain data, showing labor conditions in the mines of India, taken from this report, are given in this issue of the Labor Review.

NEW SOUTH WALES (AUSTRALIA).—Department of Labor and Industry. *Report on the working of the factories and shops act, 1912, during the year 1929. Sydney, 1930. 26 pp.*

Reports at the end of November, 1929, showed that as compared with 1928 there had been a decrease of 3,723 in the number of persons employed in factories. Male employment had decreased by 2,630 and female employment by 1,093.

—— Director General of Public Health. *Extract from report for the year ended December 31, 1929. Section 1–E: Industrial hygiene. Sydney, 1931. 4 pp.*

This report briefly reviews the results of investigations of health hazards in several industries made during 1929. Among the hazards investigated were the danger from lead in the manufacture of storage batteries and from sandstone dust in the construction of tunnels, and the hazards both to customers and clerks from the use of X-ray machines in shoe shops.

POLAND.—Office Central de Statistique. *Budgets des familles ouvrières. Résultats de l'enquête effectuée à Varsovie, à Lódź, dans le Bassin de Dabrowa et en Haute Silésie, 1927. Warsaw, 1930. 49 pp.*

Contains results of an investigation of family budgets of wage earners in 1927, in Warsaw, Lodz, the Basin of Dabrowa, and in Upper Silesia.

TASMANIA (AUSTRALIA).—Industrial Department. *Fifteenth annual report on factories, wage boards, shops, etc., for 1929–30. Hobart, 1930. 20 pp.*

VICTORIA (AUSTRALIA).—Government Statist. *Victorian yearbook, 1928–29. Melbourne, 1930. 712 pp.*

Contains data on cooperative societies, technical schools, friendly societies, conditions of labor in factories and workshops, invalidity and old-age pensions, various accident relief funds, immigration, land settlement, etc.

Unofficial

ARCHIVIO DI STUDI CORPORATIVI. *Vol. I, No. 1. Pisa, Pacini Mariotti, 1930.*

The first volume of a quarterly magazine, edited in collaboration with professors in the Faculty of Law and School of Corporative Study of the University of Pisa. Contains articles relative to the various phases of corporative theory.

BEDOUR, JEAN. *Les accidents du travail et la loi pénale. Paris, Les Presses Universitaires de France, 1930. 198 pp.*

A discussion of the French workmen's compensation law of 1898 principally from the standpoint of dishonest practices in the matter of claims and of other difficulties which arise in its operation.

BERMAN, EDWARD. *Labor and the Sherman act. New York and London, Harper & Bros., 1930. 332 pp.*

BEVERIDGE, W. H. *Unemployment—a problem of industry (1909 and 1930). New York, Longmans, Green & Co., 1930. 514 pp.; charts. (New edition.)*

CALIFORNIA, UNIVERSITY OF. Heller Committee for Research in Social Economics. *Cost of living studies, III: The food of twelve families of the professional class, by Mary Garringe Luck and Sybil Woodruff. Berkeley, Calif., 1931. (University of California Publications in Economics, Vol. 5, No. 4, pp. 247–293.)*

This study undertakes to find out what the food standards of people in comfortable circumstances are, both as to cost and nutritive quality.

CLARK, EVANS. *Financing the consumer. New York, Harper & Bros., 1930. 358 pp.; charts.*

Data from this book, showing the cost of loans to the small borrower, are given in this issue.

CONFERENCE ON EDUCATION. *Education and leisure. Addresses delivered at the fourth triennial conference on education held at Victoria and Vancouver, Canada, April, 1929. London and Toronto, J. M. Dent & Sons (Ltd.), 1930. 285 pp., illus.*

CROOK, WILFRID HARRIS. *The general strike: A study of labor's tragic weapon in theory and practice. Chapel Hill, University of North Carolina Press, 1931. 649 pp.*

In this work, the writer states in his introduction, the term general strike is used "to imply the strike of a majority of the workers in the more important industries of any one locality or region." He has treated the general strikes of history as of three types—the political general strike, which aims to exact some definite political concession from the existing government; the revolutionary strike, which aims at the definite overthrow of the existing government or industrial system; and the economic strike, perhaps the most common form.

DARTMOUTH COLLEGE. Amos Tuck School of Administration and Finance. Committee on Research. *A reading list on business administration. Hanover, N. H., 1930. 42 pp.*

Includes a section on industrial relations and personnel administration.

FELDMAN, HERMAN. *Racial factors in American industry. New York, Harper & Bros., 1931. 318 pp.*

This volume is described as "a result of studies participated in by members and friends of The Inquiry, a national organization for the promotion of cooperative studies of problems in human relations." The racial groups are taken up in order: The Negro, representing the black races; the Chinese, Japanese, and Filipinos, representing the yellow races; the Mexicans and Indians, representing the red race; and the immigrants of the white race. Special consideration is given to the difficulties each group faces, the progress which it has made, the opinion of observers as to its capacities, the causes of the opposition it has met, and the methods which have been used either to restrict its industrial opportunities or to develop its possibilities. The second part outlines a general program designed to remedy the conditions of industrial prejudice which often hamper newcomers in the field, and which are apt to be especially marked where such factors as differences of color and language enter in.

FOSTER, WILLIAM TRUFANT, AND CATCHINGS, WADDILL. *Progress and plenty: Two-minute talks on the economics of prosperity. Boston and New York, Houghton Mifflin Co., 1930. 214 pp.*

FREDERICK, J. GEORGE, Editor. *A philosophy of production: A symposium. New York, The Business Bourse, 1930. 259 pp.*

GOLDMAN, JULIAN. *Prosperity and consumer credit. New York and London, Harper & Bros., 1930. 197 pp.*

INDUSTRIAL RELATIONS COUNSELORS (INC.). *Library bulletin No. 7: Semiannual review [of current literature on industrial relations, 1930] and five-day week—a selected bibliography. New York, 165 Broadway, January, 1931. 35 pp. (Mimeographed.)*

KÜSTNER, HEINZ. *Fortpflanzungsschädigung der erwerbstätigen Frau und ihre Abhilfe. Leipzig, J. A. Barth, 1930. 124 pp.; diagrams.*

Deals with injurious effects of industrial employment upon women as potential mothers, and suggests preventive measures.

LANDSORGANISATIONENS I SVERGE. *Berättelse verksamhet 1929. Stockholm, 1930. 281 pp.*

A report on labor unions and their activities in Sweden during 1929, including conventions, trade agreements, unemployment, publications, social insurance, relations to international organizations, etc.

NANKAI UNIVERSITY. Committee on Social and Economic Research. *Industry series, Bulletin No. 2: Rayon and cotton weaving in Tientsin, by H. D. Fong. Tientsin, November, 1930. 79 pp.; diagrams.*

Surveys the industry selected for study under the following headings: History and localization, industrial organization, weaving and marketing, workers and apprentices, prospect and retrospect.

—— —— *Industry series, Bulletin No. 3: Hosiery knitting in Tientsin, by H. D. Fong. Tientsin, December, 1930. 76 pp.*

The data for the industry under review are arranged along lines similar to those followed in Bulletin No. 2 of the same series.

NATIONAL CONFERENCE OF SOCIAL WORK. *Proceedings at the 57th annual session, held in Boston, Mass., June 8–14, 1930. Chicago, University of Chicago Press, 1931. 710 pp.*

Old age and unemployment were among the most frequently discussed subjects at this latest conference of social work, four papers being grouped under the general caption "Economic old age" and seven papers dealing directly with the subject of unemployment. Included among these seven contributions are four under the classification "Current problems of unemployment" and three entitled, respectively, "Can management prevent unemployment?", "An attempt to meet an unemployment emergency," and a "Report of a survey of unemployment."

NATIONAL INDUSTRIAL CONFERENCE BOARD (INC.). *Elements of industrial pension plans. New York, 247 Park Avenue, 1931. 48 pp.*

A brief monograph intended to present the information most essential for industrial executives who are considering the establishment of a pension plan or the reorganization of one already in operation.

NATIONAL URBAN LEAGUE. Department of Research and Investigations. *Negro membership in American labor unions. New York, 1133 Broadway [1930?] 180 pp.*

PRINCETON UNIVERSITY. Industrial Relations Section. *Memorandum: Company plans for unemployment insurance. Princeton, January, 1931. 15 pp. (Mimeographed.)*

SCHWENNING, G. T., EDITOR. *Management problems, with special reference to the textile industry. Chapel Hill, University of North Carolina Press, 1930. 264 pp.; chart.*